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Observations on certain Cases of secondary Disease, subsequent to the Measles, in a Letter to BENJAMIN RUSH, M. D. *by* ——.

District of Maine, March 9, 1805.

MY DEAR SIR,

LEST you should either not have seen it, or have forgotten it, I am desirous to put into your hands a short treatise on the *measles of Jamaica*, which the author represents (and I think truly) as differing from the usual measles of Europe. But before I proceed, I wish to make known to you certain cases (as I apprehend them to be) of *secondary* disease; which followed a visitation of the measles, in 1802, in the township where I reside, which lies about N. Lat. 44° 16′, and is forty miles from the sea.

This visitation appeared with us in the early summer months. As usual in this complaint, some of the patients called for medical advisers, some managed for themselves, and some let the disorder take its course. Many patients, in the space of some weeks or months after their attack had ceased, experienced considerable illness, which, or at least the particular form of which, I am inclined to attribute to the influence of *measles* which had been *ill cured*.—From the cases of this description, I have selected *five* of the dysenteric class, which occurred under my own no-

tice, in two families living cloſe to each other in a healthy part of the country, and of which I can ſpeak with ſome certainty, as three of them ended fatally, and were followed at my deſire and in my preſence by diſſections. I add a *ſixth* caſe of the dyſenteric kind, which took place within my own knowledge alſo, but under *mixed circumſtances*; that it may ſerve in our general compariſon. *Two other* caſes will afterwards be touched upon, of a *pulmonic* nature, which followed ill-managed meaſles; and ſeemed to have a great correſpondence with the malady of the five firſt of our patients.

CASES.

Caſe I. Auguſt 9, 1802, in the afternoon, a healthy little girl *nearly three years old*, was ſeized with ſome dyſenteric ſymptoms. The next afternoon ſhe had fits, which left her inſenſible; but in the evening, her ſenſes returning, ſhe roſe and walked into an adjoining chamber. The ſtools which ſtill occurred, continued looſe and of various colours and kinds; but ſhe complained of no pain except in her bowels; and even there, the pain ſeemed rather partaking of diſtreſs, than violent or conſtant. On the 13th, her pulſe became exceedingly ſlender; her hands grew cold before the reſt of her body, and at midnight ſhe quietly expired.

Auguſt 14, the *body was opened*. The larger inteſtines, from the cœcum to the rectum, appeared inflamed in their inſide, under the villous coat. They were alſo much *thickened*, and the outer coat was ſo *hardened*, as to appear to have advanced a ſtep towards becoming cartilaginous; exhibiting, as to maſs and ſubſtance, ſome faint reſemblance to the gizzard of a young fowl.—On the meſocolon and on the *outſide* of the larger inteſtines, were oval *tubercles* to the number of 80 or 100. Some were of the ſize of a dwarf (or French) bean; their colour was a dark red; and their conſiſtence equal to that of the liver; but they were free from ulceration. The *meſentery* had many of its glands enlarged, or at leaſt it exhibit-

ed many tubercles; of which ſome were inflamed. One portion of the *ſmaller inteſtines* alſo was inflamed to a conſiderable extent, but it had no tubercles.

The inteſtinal canal in various parts contained ſoft fæces; but had neither hard balls of fæces, nor contractions, nor one part of the inteſtines thruſt within another part, nor could any other unuſual affection be perceived in them.

One worm (a *lumbricus teres*) was diſcovered with faint remains of life.—But no perforation of the gut was ſeen in the parts examined, nor any worm in the cavity of the abdomen, which could explain the fit.

A part of the left lobe of the liver had its blood veſſels turgid; and the liver in general ſeemed much enlarged. The gall bladder was full of dark-coloured bile.

The outer integument of the right kidney was inflamed.

The lungs, as ſeen through one part of the diaphragm, appeared to be ſound.

Caſe II. Auguſt 14. A boy *about two years and a half old*, living in the next houſe, and apparently of an excellent conſtitution, was ſeized much in the ſame manner; that is, with violent purging, attended with fever, blood, mucus, and teneſmus. The fever ran high, but the pain by no means appeared to be conſiderable. He died on the 17th, *in a fit.*

On the 18th the *body was opened.* The minutes of this caſe being loſt, I can only ſtate in general, that the *tubercles* which were here diſcovered, were diffuſed over the upper, as well as over the lower inteſtine, and ſtill retained their ſtation on the meſentery and meſocolon; their number amounting in the whole perhaps to 200. There were worms alſo, like the preceding, in the inteſtinal tube; but they were here 22 in number, and of the medium length perhaps of eight inches.

Caſe III. Auguſt 15. A female *infant* was violently ſeized with dyſenteric ſymptoms, attended however with no remarka-

ble degree of pain. After a ſtruggle of 5 or 6 weeks, ſhe recovered.

Caſe IV. Auguſt 17. A girl, *aged 6 years and 8 months*, was taken ill with dyſenteric ſymptoms; but like the reſt, ſhe experienced little pain; being able to move about the room till a ſhort time before ſhe died; which happened on the 29th.

Her *body being opened*, the tubercles were found ſcattered as in the ſecond caſe; but they prevailed moſt on the outer ſurface of the greater inteſtines. Some of thoſe tubercles had either receded from an inflammatory ſtate, or had not advanced into it; for their colour was yellow. Some were as large as a kidney (or Engliſh) bean. Some had penetrated ſo as to ſhew themſelves on the inner ſurface of the gut. One tubercle had ſeparated, owing to the mortification of the ſurrounding parts; and this ſeparation was on the inner ſide of the inteſtine. The whole of the colon was inflamed; it was alſo thickened, but it was tender to the feel; and within, it was of a dark red colour, reſembling that of a ripe mulberry; being under the operation of gangrene.

Worms, like the preceding, appeared to the number of 24; ſome of which had entered the œſophagus.

The liver exhibited little that was peculiar.

The ſpleen was unuſually ſoft and livid.

The integuments of the kidney were not noticed.

The lungs, as ſeen through the diaphragm, appeared in a natural ſtate.

Caſe V. Auguſt 18. Another girl, *whoſe age ſomewhat exceeded 5 years*, was taken ill in a ſimilar manner; and retained the ſymptoms for ſeveral weeks; but finally recovered, and is ſtill a healthy child.

None of theſe children (for it will be obſerved that theſe were all children,) I ſay not one of them was attended by a practitioner during their attack with meaſles; as they lived in the country, and applied for no aſſiſtance.

Caſe VI. About the ſame time, another female *infant*, for whoſe original attack of the meaſles ſome Glauber's ſalts had been given, though in an advanced ſtate of them; was ſeized with dyſenteric ſymptoms; but ſhe was ſoon relieved by new doſes of Glauber's ſalts. This infant thus imperfectly attended in the meaſles, reſided in a thick ſettled village.

The *two other* caſes, which were of a *pulmonic* nature and ſucceeded meaſles, will be ſpoken of hereafter.—Theſe two patients were *young men*, about twenty years of age.

I ſhall conclude what reſpects the *ſtatement* of theſe caſes by three general remarks.—1ſt. I do not mention all the inſtances of diſeaſe which aroſe at this period, in our neighbourhood, after ill-cured meaſles; becauſe I cannot at preſent be equally certain of the particulars, as in the inſtances above recited. 2d. I may affirm, that none of thoſe who were gently and early evacuated and bled, experienced a *ſevere attack of meaſles*; or any *ſubſequent* diſeaſe, which could be aſcribed to meaſles. 3d. No tendency in general to dyſentery manifeſted itſelf at this time within our little circle; and, as to pulmonary complaints of a chronic nature, they are at all times ſomewhat uncommon among us. The two laſt of theſe remarks appear to me of conſiderable importance, as to the queſtion before us.

The firſt *five* caſes recited above, I may now obſerve, ſeem to give room for the following *queries*.

Query I. Had *poiſon*, whether ariſing from wild plants or other articles, accidentally eaten, any concern in this buſineſs?

The anſwer is eaſy in the inſtances before us. Two of the children mentioned in the firſt ſix caſes, were infants at the breaſt; and one of them, for the moſt part, lived ſeparate from the others. The other caſes alſo to which I afterwards referred, were accompanied with circumſtances rendering this ſuppoſition too improbable for further notice.

Query II. If meaſles, and eſpecially ill-cured meaſles, in ſome caſes and ſome countries, are ſaid to lead to tubercles in the *lungs;* why may not tubercles *on the inteſtinal tube and its connected membranes*, follow alſo from the ſame ſources in other caſes and in other countries?

As this query ſeems reaſonable, it will paſs only with this comment. It is by means of theſe tubercles that we may poſſibly point out a correſpondence between the pulmonic and dyſenteric caſes above referred to; a correſpondence, which will receive further evidence, from the circumſtance of the *ſame treatment* having appeared to ſucceed in the cure of each.

Query III. If we ſay that the above patients whoſe bowels were affected, had *pure and independent* dyſentery, how ſhall we reply to the following difficulties?

1ſt. Dyſenteric ſymptoms (generally ſpeaking) never occurred with us, as I have mentioned, at this period, unleſs in caſes where meaſles were concerned. Secondly, in various parts of the world, fluxes often happen in the primary ſtate of meaſles; as Sydenham, Huxham, Watſon, Cullen, and others, have witneſſed in Great Britain. Tiſſot, alſo has noticed theſe fluxes in Switzerland; Rhazes (as quoted by Mead) ſpeaks of them in the Eaſt; and the author (ſoon to be mentioned) found them to be a fixed part of the diſeaſe in Jamaica. In our neighbourhood, the only variation is, that theſe dyſenteric ſymptoms occurred after a little interval, and not in immediate and viſible connection with the meaſles. Thirdly, the mortality with us was greater and more rapid, than in common dyſenteric caſes, where meaſles have no concern. Fourthly, I am inclined to believe that in proper dyſentery, the tubercles which are ſometimes found in diſſecting the inteſtines, ſhew themſelves generally *within* the inteſtinal tube in the firſt inſtance; and not *without* it, as with our patients. Fifthly, remedies which are *not* uſually employed in dyſentery, ſeem to have had influence, as we ſhall ſoon find, over three of our bowel-caſes which were deſperate. It is true, that we muſt abate ſomewhat from this laſt argument: ſince it may be thought that the common treatment for malignant dy-

ſentery is as yet imperfect; and that the very medicines employed in this caſe may themſelves be of uſe in future trials with dyſentery. Such are the reaſons to be urged in favour of the diſeaſe having been only a *certain kind* of dyſentery; ſpecially connected, in certain ſituations with meaſles.

But it is to be urged on the other hand, that in one houſe, where three of the children had been ſick, three men were ſeized with apparently true dyſenteries, while attending them; and another man was ſeized with the ſame complaint, who occaſionally attended two others of the ſick children in a neighbouring houſe: and it may be added, that if pure *phthiſis* and pure *ophthalmia* may follow meaſles, as their cauſe; ſo poſſibly may pure dyſentery.

Perhaps then we may find reaſon to decide thus between the two opinions. Meaſles may have left a ready diſpoſition in the children to *receive* true dyſentery from the common cauſes of dyſentery; and when dyſentery has once occurred, it may have exaſperated that *tendency to tubercles*, which every where ſeems to be a frequent attendant upon meaſles.

Query IV. Even upon the ſuppoſition that meaſles had their ſhare, (direct or indirect) in the above diſeaſes; it may ſtill be inquired, whether the tubercles which were diſcovered in the abdomen, *preceded*, or whether they only *accompanied* or *followed*, the new ſtate of inflammation?—In other words, ſince the pain at the commencement of tubercles or ſchirrus, is often ſo ſmall, as not to be noticed; we may aſk, whether the tubercles in queſtion exiſted unobſerved, before the occurrence of the new diſeaſe? or did they (ſee caſes 1 and 2) begin and ripen within 108 hours, or ſome ſhorter period, before death?—The ſame queſtion attends the *thickening and hardening of the inteſtines.*

The reaſonableneſs of the ſuggeſtions in this query as to the *ſudden riſe of tubercles*, eſpecially where there was a previous tendency to them; may be made manifeſt by a ſtatement of two or three facts.

A *ſudden* ſwelling of the glands lying *within our ſight or feeling*, is ſeen in ſore throats; and again it is ſeen in irritations

of the lymphatic ſyſtem from venereal buboes, and other cauſes both natural and artificial: and the diſappearance of many ſuch ſwellings is often as abrupt as their appearance.—As to the *internal* examples of ſudden ſwellings of glands or tubercles, take the following produced by Dr. John Hume, formerly a commiſſioner for the ſick and hurt ſeamen of the Britiſh navy; who writes as follows: "Dr. Mackittrick Adair, (of Antigua,) who had practiſed phyſic for a number of years in the Weſt Indies, mentioned his having opened a man who died the *third* day of the yellow fever. The whole body, he ſays, had ſomewhat of a livid appearance; the cavity of the abdomen ſeemed dry and deſtitute of ſerum; the *omentum* was full of black blood, and had on its lower edge a number of *round glandular bodies* full of the ſame ſort of *black blood*; the coats of the ſtomach, duodenum, and ilium, were remarkably inflamed; the liver was not increaſed in its bulk, though its texture ſeemed vitiated; the gall bladder was full of black bile; and there were ſome round worms in the cavity of the inteſtines; the urinary bladder was a little inflamed; the lungs were ſound; and the pericardium contained a *more viſcid* yellow ſerum, and in larger quantities, than common; and the cellular membranes were every where filled with a *tough* clay-coloured *mucilage*."—Thus then we have diſcovered *round glandular bodies*, filled with black blood, on the cawl of a man who died on the third day of a fever; that is, before it had raged 72 hours. In this particular inſtance alſo, the *viſcid* ſerum and *tough* mucilage may go ſome way towards explaining the more immediate *cauſe* of theſe glandular bodies.

Tubercles have been found repeatedly in the bowels of patients, who have died of dyſentery; but they are more frequent in ſome circumſtances or ſituations than in others: and in ſome of the diſſections made, the thickening, the hardening, and the ſubſequent ſoftening (by mortification) of the inteſtines, have alſo been particularly noticed. Some of the caſes thus deſcribed had a ſpeedy termination in death, (though leſs

ſpeedy than with us); but others of the caſes had ſome duration.*

I ſhall finiſh what regards the deſcription of our caſes, compared with thoſe of the ſerious epidemic dyſentery, by obſerving that where the *ſeat* of the tubercles in epidemic dyſentery *is particularly noticed*, it is ſaid to be *within* the inteſtines; and not *without*, as with us. It is alſo obſervable, that the patients examined by others were *adults*; whereas ours, who had bowel-affections were children; who (as is well known) are peculiarly liable to ſwellings of the meſenteric glands.—The *pulmonic* complaints alſo fell by preference, as was natural, on thoſe arrived at the age of puberty.

Let us now ſpeak of what was done for the relief of our patients.

Treatment of the above Caſes.

The *firſt* of our ſix caſes having in its commencement appeared to belong to proper dyſentery; medicines were adminiſtered accordingly. But the mother of this patient quickly objecting

* Sir John Pringle has given his diſſections in dyſentery more at large, perhaps than any other author. They were of adult patients, male and female. (See Army Diſeaſes, 7th Edition, p. 237 to 250.)—Dr. Baillie, not finding many caſes of tubercles in the inteſtines in Great Britain, refers chiefly to Pringle. (See Morbid Anatomy, 2d. Edition, p. 174-175.)—Sir Gilbert Blane, who ſuperintended ſeveral diſſections in the Weſt-Indies, yet refers chiefly to the ſame author. (See Diſeaſes of Seamen, 3d. Edition, p. 450-453)—Dr. Donald Monro, thought that the tubercles diſcovered by Sir John Pringle and Sir G. Baker in their diſſections, were uncommon; ſince in old dyſenteries, he himſelf had ſeen little beſides ſpots and eroſions; appearances, we may add, which with ſmall exceptions, were confined to the *inner* parts of the larger inteſtines. (See Edinburgh Eſſays and Obſervations, Literary and Phyſical, 3. 516-524; where he gives particulars, which he had refrained from inſerting in his work on Military Hoſpitals.) He had once obſerved the meſenteric glands oſſified, though not by dyſentery. (London Medical Tranſactions, 2. 362-365.)—I cannot refer to Dr. Stark; my copy of his work being at preſent unfortunately miſſing.

to every thing tending to nauſea, and worms being ſuſpected to have ſome ſhare in the fit; ſmall doſes of calomel were alone continued; ſymptoms in other reſpects being combated as they aroſe.—The lancet was once employed in the *ſecond* caſe; and attempts alſo were made to obviate inflammation and obſtruction, without forgetting the dyſenteric ſymptoms (in the common acceptation of that term.)

The ſurviving patients however, were ſtill going on unfavourably, *when I recollected the little treatiſe on the meaſles in Jamaica, by Mr. Quier;* to which I alluded in the beginning of this letter. With the conſent of a medical friend whom I had a little before called in, the following medicines were adopted out of it, and given every ſix hours; namely, caſtor oil, weakened with a proportion of olive oil; magneſia, or the teſtaceous powders, employed diſcretionally according to the ſtate of the body, but commonly alternately; gum Arabic; and an opiate. Clyſters alſo were given on the ſame plan.—I forget what ſhare calomel had in our preſcriptions. The reſult however was as follows. The *third* and *fifth* patients eſcaped; and the life of the *fourth* was prolonged under deſperate circumſtances. For the *fifth* patient, the lancet was once uſed; but I ſhall perhaps be blamed for not having adviſed a very liberal employment of it in the whole of the four caſes which ſucceeded the firſt diſſection; and eſpecially in the beginning of them. Sydenham indeed had adviſed it in caſes of flux accompanying meaſles; but our ideas were not yet ſufficiently firm as to the connection between the preſent complaint and meaſles; and the fear of the public opinion (where ſeveral deaths had occurred) was too conſiderable, to allow us to vary much; and eſpecially in an oſtenſible manner, from the common practice for the cure of dyſentery.

The *ſixth* caſe, ſtanding on ſeparate grounds, furniſhes no direct evidence as to the new treatment; but only preſents a contraſt to the other caſes, whether it be conſidered as proper dyſentery, or as a leſs exaſperated ſtate of ſecondary diſeaſe.

It is not only on the caſes which are related above, that I have founded my conjecture as to the utility of the foregoing

medicines, when thus combined. For I employed them in the two caſes where *pulmonic* affections occurred, ſubſequent to ill-cured meaſles; though in one of theſe caſes, the appearances had almoſt precluded hope. A diet of milk and vegetables was at the ſame time recommended; but no other medicines concurred in the cure; unleſs perhaps antimonials and elixir of vitriol, and yet the recovery ſeemed more regular and *comparatively* more ſpeedy, than in the caſes where the inteſtines alone had ſuffered.

Conjectures.

How the above medicines operated (if to them is to be attributed any part of the favourable reſult which occurred,) may ſeem matter of doubt. For myſelf, I incline to explain it principally on the footing of a *check being given to acrimony* (and thence perhaps to viſcidity;) by means of the oils, the mucilage of the gum, and the abſorbent powders.* The laxative qualities of ſome of theſe articles, were probably highly uſeful; yet thoſe who died, it muſt be obſerved, alſo took laxatives; but they were principally laxatives of another nature. Among the *chief* advantages of the opiate perhaps was that, of its admitting larger doſes of the oil and magneſia, by checking their purgative qualities.

I am the more inclined to make further experiment of the above method of treatment in future caſes, from obſerving that Dr. Watſon (ſenior) ſays, that with patients in the worſt kind of meaſles, "a draught of *freſh milk*, either alone or mixed with

* Mr. Quier, in a note to his "Account of the *dry belly-ache* of the Weſt-Indies," probably explains to us a part of his *own* notion of the mode of action of his medicines. Having referred to *De Haen's Ratio Medendi*, he ſays, "It is a pity, that the *emollient, lubricating, diluting, and enveloping* method ſo much recommended by this gentleman, is not more followed in all the ſpecies of the dry belly-ache." (See *Letters and Eſſays*, hereafter to be pointed out, p. 182.)—Dr. Cullen (in his lectures) aſſerted, that *oils* upon the plan of De Haen, did not anſwer in trials made in Scotland.

water, was moſt grateful, and tended much to the alleviation of their complaints, as well as recruiting their ſtrength." Sydenham among his remedies, recommended weak milk and water boiled, and demulcents; milk, demulcents, and an oily linctus made part of the treatment of Mead. Dr. Percival uſed a demulcent and a neutral ſalt in his preſcriptions; to ſay nothing of other authorities.

In mentioning theſe things, we do not mean to reject other aids; as will be ſeen in particular, when we ſpeak of the diarrhœa in meaſles.

But to return to the *oil*, let us aſk whether oil may not be uſeful in ſome ſhape or other, in caſes of *tubercle, and even of ſchirrus*, viewed in a *more extenſive* ſenſe?—Olive oil, ſimmered away very gradually to the conſiſtency of an ointment, and applied *externally* to *cancer* (as recommended in ſome of our newſpapers;) is ſaid to have had a happy influence over an open devouring cancer in this neighbourhood. May not *oily* medicines, aided by the above named accompaniments, (and in particular by the *mucilage* of the gum and *the removal of coſtiveneſs*,) have their turn of trial in an *internal* form, in the caſe of cancer? And ſhould not many of thoſe *cancer-medicines*, which in modern trials have uniformly failed, ceaſe to be longer adminiſtered; as being *proved, in our hands, to be of all others the moſt hopeleſs* in general caſes?—Should difficulty occur in making the oils ſit eaſy upon certain ſtomachs, perhaps ſpermaceti may admit of being uſed in their ſtead; though it may be doubted in general how far an increaſe of the quantity of meat, broth, butter, and other ſuch animal ſubſtances, may be uſeful in caſes of ſchirrus and cancer. What would be the effect of *ſoap*, which is compoſed of oil and an alkali; in caſe it ſhould be ſufficiently mild, may deſerve a queſtion.

We are told of a *flux from the bowels* occurring to the Southward, which after a year or two, *terminates in conſumption*. My information on this ſubject is not from profeſſional perſons; but if ſuch a caſe occurs, and is owing to tubercles having *extended from the abdomen to the thorax*; may not a treatment be adopted

for it, which ſhall aim at the cure of tubercles? If this *plan* for the cure be reaſonable where every thing elſe is ſaid to fail, I cannot but hope that the above *methods for executing it*, may be borne in mind; as tubercles in many inſtances are made worſe by mercurial medicines, however they may ſeem benefited by them in other caſes.

May not oils, mucilage, and abſorbents, each be principles which may often be introduced with advantage into the human frame (conſidered as a maſs of organized matter); in order to act there nearly under their *original native forms?* Mucilage and abſorbents have each been employed in this view; as well as acids, aſtringents, and certain gaſſes; and oils perhaps may equally find ſuitable moments for their adoption. A near relation of mine, who lived on milk and vegetables to avoid the gout, having complained of a grating in the bones on the front of his cheſt; I recommended to him to make free uſe of butter with his bread; and the ſymptom ſoon diſappeared. Would not ſomething of this kind alſo be worthy of trial for joints which crack when they are moved; eſpecially as I think I have given advice of this ſort with ſucceſs, for this defect? Sinews alſo which have become rigid by accidents, as well as various other caſes, may perhaps afford room for the free introduction either of the oleaginous or mucilaginous principle, or both.—Hence, it may often become uſeful in practice, where caſtor oil is employed, occaſionally to increaſe its bulk by the addition of olive oil. But we muſt at all times remember, that every thing has its limits; and that oil eſpecially may tend to overload the ſtomach, if not the conſtitution. But theſe hints being ſufficient in a caſe, where I have nothing to propoſe but *looſe* conjectures, I reſume our general ſubject.

Of Meaſles generally conſidered.

I think it may ſafely be obſerved, that there are few inſtances of diſeaſes like the meaſles, which are *of ſuch magnitude when neglected;* and yet are commonly to be checked by *ſuch light*

meaſures in the commencement. A ſingle bleeding and a ſingle purge *early* adminiſtered, and repeated in caſe of need, with low diet, and pure and temperate air; have, with little or no exception, ſufficed in our climate and our ſituation, for the *common* form of this diſtemper. Nor does this method only cure the mild forms of the firſt diſeaſe; but (according to our experience in 1802) it *prevents* what are far more to be dreaded, namely, the *ſecondary* complaints. As a purge and a bleeding then cannot injure a common conſtitution, *neither of them ought ever to be ſpared,* as far as the cure demands them; which I believe will commonly be found to be within a ſmall extent. Some give a vomit on the firſt occurrence of meaſles*; and it perhaps may be uſeful in various points of view; but I have never ſeen this method extenſively practiſed; and ſome have even objected to it.

I ſhall not pretend to teach at large of the *nature* of meaſles.† I ſhall be content with aſſerting, that at firſt, the ſymptoms ſeem to be *inflammatory;* and that in violent caſes they go on to indicate *acrimony;* inſomuch that corroſion often follows the lancet and bliſter, and (if I remember right) the ſcratch and even the puſtule.

I think we ought not to be ſo confident, as Dr. Watſon appears to have been, that meaſles of the malignant kind are *putrid,* otherwiſe than as the reſult of acrimony; though his recommendation of the Peruvian bark for removing debility, where

* We read of the following general treatment of meaſles, at Edinburgh, in 1735 and 1736. "Moſt of the patients who were attended by our phyſicians and ſurgeons, were kept on the *cool* regimen all the time of this diſeaſe; and were let blood at, and *vomited* before the eruption; unleſs, where the preceding ſymptoms and fever were very mild." Medical Eſſays and Obſervations, 5, 27.—(The vomits, it may be recollected, would often act as purgatives.)

† What is the nature of the diſeaſe in the *hog*, called the meaſles?—Is not the animal full of tubercles within; and do not the ſpots ariſing from this, occaſion him to be called *meaſly?*—The internal ſtructure of the hog (as we know,) has conſiderable reſemblance to that of man.

the cheſt is free, may at firſt ſight ſeem a proof in his favour. I believe however, that his obſervation is thoroughly juſt, that *purulent collections* of matter do not occur even in the worſt ſhape of meaſles. In their more malignant form, every thing tends to corroſion of the fleſh, to caries of the adjoining bones, and to ultimate general mortification.

Dr. Percival in the Spring and Summer of 1774, found the meaſles of the regular kind epidemic at Mancheſter, and gives the following particulars reſpecting them. He ſays, that "it was not unuſual for violent peripneumonic ſymptoms to occur five, ſix, or even eight days, after the diſappearance of the eruption. Under theſe circumſtances, bleeding, bliſters, and the ſeneca root, were found to be very efficacious remedies. I preſcribed (he adds) the *Peruvian bark* with great ſucceſs to many of my patients under the meaſles, combining it with *demulcents* and the *ſaline mixture*;* and premiſing veneſection, when the ſigns of inflammation were urgent. The practice of giving bark in this diſeaſe (he affirms) was firſt introduced by Dr. Cameron, a very eminent phyſician at Worceſter; who obſerved, that it prevents the *retroceſſion of the morbid acrimony*, and *continues* the efflorescence on the ſkin, ſometimes ſo long as the twelfth day. By this ſalutary operation the cough and other inflammatory ſymptoms are in a great meaſure obviated; and the patient is freed from all danger of a peripneumony, the fatality of which Sydenham deſcribes in ſuch ſtrong terms. It is *many years* (continues Dr. Percival) ſince I firſt *adopted* the method of cure recommended by Dr. Cameron; and experience has afforded me the fulleſt conviction of its ſafety and efficacy, in all ordinary caſes. During the late epidemic, not a ſingle inſtance occurred to me of the peripneumony ſuc-

* He gave 3 drachms of *ſalt of tartar* diſſolved by the moiſture of the air, having afterwards ſaturated it with lemon juice; alſo 2 ounces of weak cinnamon-water; half a drachm of paregoric elixir, and the like of antimonial wine; four ſcruples of extract of Peruvian bark, and the like of extract of *liquorice*; mixing the whole together.—How often this medicine was adminiſtered, is not related.

ceeding the meaſles, *when the bark had been employed:* But my aſſiſtance was deſired in the laſt ſtage of fifteen unfortunate caſes of this kind, in which the *common* antiphlogiſtic and pectoral courſe had been purſued. The meaſles, when violent in degree or ill treated, frequently lay the foundation of hectic fevers or pulmonic conſumptions.*"

Of courſe we cannot overlook in this account the mention of a demulcent (namely liquorice,) as well as of the neutral ſalts.—But what is ſuggeſted concerning the *Peruvian bark* is of more immediate intereſt. I do not mean as to the mere *hiſtory* of its application to caſes of this ſort; for here Dr. Percival is miſtaken. At the viſitation of the meaſles in Edinburgh, in 1735, and 1736, it is ſaid, that "to thoſe who ſeemed to be hectic, and to be threatened with a phthiſis after this diſeaſe; vomits, *Peruvian bark*, and aſſes *milk*, were of ſervice."† Dr. Whytt alſo employed the bark for *hoarſeneſs* after meaſles, in 1757, of which we ſhall ſoon ſay more; and Dr. Watſon uſed it more at large in this diſeaſe in 1763. But I think you will agree, that it is more uſeful to notice the ſuppoſed power of bark over the *eruption*, and the ſuppoſed power of the *eruption over the morbid acrimony;* than any other circumſtance in the account by Dr. Percival. This, if correctly ſtated and generally confirmed, may lead us to one mode of controlling both the primary and ſecondary diſeaſes of meaſles. It even induces us to aſk, in caſe the

* Medical Obſervations and Inquiries, London, 5. 283-285. Edition 1776.

† Medical Eſſays and Obſervations, Edinburgh, 5. 28. Fifth edition.—In the ſame volume p. 84,) we find a paper by the elder Dr. Monro, on the effect of the Peruvian bark in gangrenes, agues, and *ſmall pox;* which perhaps ſhows by what ſteps the bark firſt came to be applied to meaſles; namely, in order to fill the puſtules, improve the matter in them, and prevent mortification.

With the ſame view, Haller, in the caſe of black puſtules in the ſmall-pox, ordered *camphor;* and his relation of its ſucceſs, even when the *urine had become green*, forms the moſt intereſting article in the *Pathological Obſervations* of this author. (See them tranſlated into Engliſh, and printed in London for Wilſon and Durham, in 1756.) Dr. Cullen, ſuppoſes the chief advantage of camphor, in confluent ſmall pox, to ariſe from its antiſeptic qualities.

morbid matter can be made to *expend itſelf in ſome degree* by means of the eruption; whether *ſevere* caſes of the primary diſeaſe, which happen in ſpite of proper treatment, may not occaſion the ſecondary diſeaſes to be leſs formidable than might otherwiſe be expected? As alſo, whether this inſidious diſtemper is not ſometimes more particularly to be feared in its milder forms, if neglected or miſmanaged. It is next in order to mention again, that Dr. Whytt found it advantageous to uſe the bark for the *hoarſeneſs* ſometimes ſucceeding meaſles; whether attended with cough, or otherwiſe. It was combined with vinegar, though probably without neceſſity.* The bark, joined with tincture of cantharides and opiates, has likewiſe often been found ſerviceable in the *hooping* cough; as opiates with bark and chalybeates, have alſo been employed ſucceſsfully in *other* coughs. Of courſe the *univerſal rule for all theſe caſes* is, to get rid in as great degree as poſſible, of the more formidable ſymptoms of inflammation, before the bark is admitted. The favourable operation of the bark here, is probably not ſo much owing to its ſpecific powers; as to its ſtimulating the powers of the conſtitution, or to its creating counter-actions ſufficient to balance the morbid powers of the diſeaſe. I muſt not quit the ſubject of the bark, without mentioning that Dr. Whytt uſed the bark for *dyſentery attended with aphthæ;* though he agreed with Cleghorn, that it did no ſervice where mortification had commenced.† This new application of bark has full relation to our general ſubject; not only becauſe dyſenteric ſymptoms, but (as we ſhall hereafter find) aphthæ, are frequently combined with meaſles. After all, the *beſt* mode of treating meaſles may perhaps be one, which ſhall have little to do with bark. Several plans in medicine have in their day met with applauſe, merely becauſe they were ſomewhat preferable to thoſe

* Eſſays and Obſervations, Phyſical and Literary, Edinburgh, Vol. 3. Art. 14. Edition 1771.

† Eſſays and Obſervations, Phyſical and Literary; as laſt cited.

which went before: and ſo it may poſſibly be with thoſe which include the exhibition of bark in meaſles. The ſubject therefore merits new attentions. Here however, I ſhall leave theſe particulars, to make another reference to Dr. Percival.

This amiable author (now no more) relates from the records of Mancheſter, in England, that in a period of ſix years, meaſles (contrary to ſmall-pox) were found moſt fatal to *males*. He ſays alſo, that in this period, the meaſles deſtroyed a number equal to about one *ſixth part* of the number deſtroyed by the ſmall-pox; and that one half of this loſs occurred with patients under *two years of age*.* With reſpect to the numbers loſt however, the Mancheſter records are probably deceitful; a part of the ſlaughter occaſioned by meaſles having been concealed under other names. If we believe Morton, this diſeaſe has ſometimes become a little plague in its more oſtenſible ſhape; and when comprehended under all its forms (primary and ſecondary,) it is truly a formidable ſcourge. Sydenham ſays of the cough, "after the meaſles go off, that it is ſo very fatal, that it may well be reckoned the chief miniſter of death; deſtroying *even more than the ſmall-pox*."† Happily ſome of theſe accounts ſurpaſs modern experience, at leaſt in the United States and in Great Britain.

For the cure of the *diarrhœa* in meaſles, Sydenham *(as I have ſuggeſted above)* chiefly relied upon the lancet; which, (as is well known,) he boldly uſed with every patient in every ſtage of meaſles which *ſeemed to require it*: though in common meaſles, he ſays, that he generally was able by his methods to proceed without bleeding, in the firſt ſtages; an aſſertion to which we cannot refuſe a certain degree of credit. At Edinburgh, in 1735 and 1736, "if there was a diarrhœa (as we are told),

* Medical Obſervations and Enquiries, Vol. 5. p. 283, 288, 289.

† See Peachy's Tranſlation, p. 135, 5th Edition; which happens now to lie before me.

blood-letting, *vomits*, and the *decoctum album* generally put it away.*

Doctor Cullen will afford me ſome ſhort concluding quotations on the ſubject of meaſles.—He ſays, that "a diarrhœa frequently comes on (after the deſquamation of the eruption;) and continues for ſome time;" alſo, that "it is common for the meaſles when they have been of an inflammatory kind, to be followed by inflammatory affections, particularly ophthalmia and phthiſis:" and laſtly, that "for the *moſt part*, the meaſles even when violent, are without any putrid tendency; but in ſome caſes, ſuch a tendency appears."† My copy of the printed work of Dr. Cullen has marginal notes, made by myſelf in his lecture-room, in 1780 and 1781, while an attendant upon his lectures: and the notes ſtanding oppoſite to the above paſſages reſpectively, are as follows. "In the *laſt year's* courſe (of lectures) I find, that Dr. Cullen ſuppoſed the morbillous matter to have been determined to the mucous glands, (when the flux occurred.)" "If there is an acrid matter, he does not know how to evacuate (or correct) it; and therefore he attends to the inflammatory circumſtances." "As he never ſaw this putrid tendency, he has always treated the meaſles as an inflammatory affection." It appears probable from a review of theſe three paſſages and notes, that Dr. Cullen had in his mind Dr. Huxham's account of a "violent *mucous* diarrhœa" ſeen in meaſles; and as to the putrid form of the meaſles, he cites for his authority, the celebrated paper of Dr. Watſon above noticed. ‡

* See Medical Eſſays and Obſervations as above. 5. 27. The decoctum album conſiſted of a decoction of the roots of tormentil and *comfrey*, to which were added cinnamon, *calcined hartſhorn*, *pure chalk*, and white ſugar. (ſee James.)

† See Dr. Cullen's firſt lines of the Practice of Phyſic, Edition 1779, Vol. 2. p. 80. 81. See alſo, ſeveral paſſages in his Materia Medica.

‡ See Medical Obſervations and Inquiries, Vol. 4. p. 132.—In the ſame volume is Dr. Dickſon's Vindication of Sydenham againſt Morton and Mead, on the ſubject of meaſles. Morton has certainly the bills of mortality and Sydenham's ſilence againſt him; but Morton does not ſpeak upon *hearſay*; but upon the *recollection* of what happened many years before he wrote.

It is needleſs to inſiſt here on the diſtinctions between the *benign* and *malignant* ſpecies of meaſles; though the ſmall-pox, the dyſentery, the ſcarlet fever attended with ſore throat, and perhaps various other diſeaſes, (even without including the venereal,) have each of them alſo *two forms;* which differ not only in degree, but in ſome reſpects in ſymptoms; according to conſtitution, ſeaſon, treatment, infection, and other circumſtances. Nor ſhall I pretend to detail the reſpective ſymptoms or treatment belonging to the two ſtages (anſwering to thoſe in the ſmall-pox,) which generally occur in ſevere, and often in the mild ſtate of *primary* meaſles; for here common authors muſt be conſulted, ſubject to what is above obſerved. But it is proper to notice, that meaſles even of the ſame ſpecies, under different circumſtances, manifeſt conſiderable variety; which muſt not only govern the practice of the phyſician, but alſo his judgment of the practice of others. On the whole, one who preſcribes for meaſles ſhould never loſe ſight of what Sydenham ſays, after having ſpoken of *ſmall-pox*. "If this be the true and exact hiſtory of the diſeaſe, (namely, ſmall-pox,) he deſerves to be blind, who will not ſee that the *whole event* of it, as to *either part*, depends on the foundation of the cure, well or ill laid at firſt."

This might ſeem the proper place to ſay a few words upon *ſecondary diſeaſes*, as allied to meaſles. But I ſhall combine the trifle which I have to note on this ſubject, with ſome other correſponding articles, in the diviſion of this letter which immediately follows.

Of connected or correſponding Diſeaſes.

Theſe are of ſeveral deſcriptions.

I. We have already noticed certain diſorders which frequently *follow* each other, by a fixed order in nature, in ſeparate individuals; without relation to other patients, and independent

in a great degree on the ſeaſons. Meaſles we have ſeen accuſed, as being the frequent parents of diſeaſes in the cheſt, eyes, and inteſtines. Small-pox is thought often to produce ſcrophula and other diſeaſes; or (to uſe the words of Haller) their troubleſome conſequences may be ulcers, inflammation of the eyes, weakneſs of the joints, looſeneſſes, or tedious diſeaſes of the lungs. Theſe are the moſt eminent among the many examples of primary diſeaſes leading to ſecondary ones. But ſecondary diſeaſes may ſometimes lead to a third claſs, or to *ternary* diſeaſes; for obſtruction or inflammation may occaſion ſchirrus, and ſchirrus may end in open ulcer; and if the obſtruction or inflammation in theſe caſes has been the ſequel of ſome prior acute diſeaſe, we ſhall then have *four* diſeaſes in lineal deſcent; with three periods of apparent health perhaps interpoſed.

The ſeveral diſeaſes reſulting from meaſles, are not only like the primary complaint itſelf, commonly either acrid or inflammatory; but, in ſome caſes, they are perhaps the conſequence of re-action. The ſmall-pox generates diſeaſes of a more mixed order; but they alſo are commonly either acrid or inflammatory. Sydenham, ſpeaking on this ſubject, ſays, "When the patient is upon the recovery, and the puſtules are fallen off and he has eaten fleſh a few days, (namely about the one and twentieth day,) I reckon he may be bled in the arm, *if the diſeaſe has been violent;* for the *inflammation which the ſmall-pox has impreſſed upon the blood* (whether the patient be old or young,) no leſs indicates blood-letting, than the filth that has been gathered together, does purging. This is evident enough, both from the *colour of the blood* that has been taken away after the ſmall-pox has been ſevere, (which is like that of pleuritics;) and alſo from thoſe great inflammations that fall on the *eyes* after this diſeaſe; as alſo from *other* ill effects of the blood overheated and depraved by this diſeaſe: which is the reaſon that they who were healthy all their lives before, do (that is many of them,) all their time after contend with *ſharp hot* humours falling on the lungs or ſome other part. But if the puſtules have been

few, there will be no need of bleeding. After bleeding, I give three or four purges. Moreover, when the patient has been freed a while from the confluent ſmall-pox, and riſes daily, it ſometimes ſo happens that he is cruelly troubled with a *ſwelling of his legs;* which either goes off of its own accord after bleeding and purging, or is eaſily aſſuaged by the uſe of diſcuſſing and emollient herbs boiled in milk."

II. Sydenham, and our own experience have made us acquainted with another form of connection between diſeaſes; I mean that, by which two diſeaſes of *independent* origin *influence* each other. Thus a departing epidemic acts upon a commencing one, and receives back its re-action; certain ſymptoms of each being modified by the other. An ordinary diſeaſe alſo has ſome of its characters changed by a cotemporary epidemic.

If it be ſaid, that a certain ſtate of the air influences in theſe caſes, it muſt ſtill be admitted that a paſt diſeaſe may have partially changed our bodies for a time; and that infection alſo, in ſpreading from one to another, may have *limited* effects upon certain individuals; which are conceſſions ſufficient for our purpoſe.

III. One *epidemic* in ſome caſes ſeems to go even to the length of generating others, making them partly cotemporary with itſelf, though perhaps in different ſets of patients; or elſe the ſame ſtate of the air or ſome other unknown circumſtance, has the power to produce related diſeaſes.

Of this I ſhall here offer ſeveral examples.—"In the firſt two months (ſays Sydenham) that this ſort of *meaſles* (in 1674) appeared, a *meaſly fever* here and there intervened, in which ſome pimples broke out in the trunk of the body (eſpecially in the neck and ſhoulders,) like the meaſles; but they were diſtinguiſhed from them, becauſe they did not ſeize the whole, being confined to thoſe parts we now mentioned. But the fever, though it was plainly of the ſame kind, was more violent, and continued fourteen days and ſometimes longer. It bore neither glyſ-

ters nor bleeding, being enraged by both; but the method for the meaſles agreed with it."*

At Edinburgh, in 1735 and 1736, we learn that "during the *meaſly ſeaſon*, ſeveral people who *never had had* the meaſles, had all the preceding ſymptoms of meaſles; which went off in a few days without any eruption, (which they underwent months or years afterwards.) Others who *had undergone* the meaſles formerly, had at this time a fever of the eryſipelatous kind, with eruptions like to what nettles cauſe; and all the previous and concomitant ſymptoms of meaſles from the beginning to the end of the diſeaſe."†

What is ſtated as ſometimes occurring in ſeaſons when the meaſles prevail, has its parallel in ſeaſons of the *ſmall-pox*. I begin as before with Sydenham, who writes thus. "At the time (1667) wherein the ſmall-pox firſt broke out, a new fever aroſe, not much unlike the ſmall-pox; if you except the *eruption* of the puſtules, and the ſymptoms which depend upon them. This fever did not ſeize near ſo many as the ſmall-pox, yet it continued as long. But in the winter, when *they decreaſed*, this prevailed; and when *they returned*, this receded: yet did it never quite ceaſe at theſe times; till at length in Auguſt, 1669, the ſmall-pox and this fever went off together."—The agreement between this fever and the ſmall-pox chiefly lay in a pain near the pit of the ſtomach, which manifeſted itſelf ſtrongly on preſſure; alſo in a natural ſalivation, and natural ſweats; in ſpots; and in the mode of treatment being common to both. Hence, Sydenham called the fever *variolous*. Sydenham even informs us, that a *third* diſeaſe accompanied theſe two epidemics, eſpecially during one ſummer, namely a looſeneſs; the conſtitution of the air inclining to a bloody flux: and he adds, that it was manifeſt, that this diſeaſe was nothing elſe but the fever turned *inwards upon the bowels*. In other words, he ſuppoſ-

* See Peachy's Tranſlation of Sydenham. Sect. 5. c. 3. p. 165.

† See Medical Eſſays and Obſervations. 5. 28. 29.

ed it owing to an inflammatory tendency conveyed, *through the meſenteric arteries*, to the inteſtines; there "ſoliciting excretions." It was cured by bleeding, and the cool regimen; and became mortal (he ſays) from the uſe of aſtringents, and even of rhubarb and other gentle cathartic.*

The following caſe from Haller is ſomewhat more equivocal than the preceding; but I ſhall give it, that I may have ſomething like a pretext for introducing an *intereſting note* from that author. In the Pathological Obſervations before cited, Haller, after informing us, that at Gottingen the diſtinct ſmall-pox began in March, which in the ſummer in many caſes became confluent; ſays, that in the month of September the diſeaſe began to decline, and gradually gave way to a *miliary fever*. He adds afterwards, that this fever "was in no ways dangerous. The diſeaſe was very gentle in the firſt day; and on the ſecond, large red *ſpots* appeared upon the ſkin. It ſeized equally thoſe who had *not had* the ſmall-pox, and thoſe who had *got over* them. On the third day, very ſmall tranſparent white *puſtules* began to ariſe gradually in the ſpots, (the circumference of which was pale;) but by a moderate perſpiration and a diet drink, without any other aſſiſtance from phyſic, all theſe diſappeared on the ſeventh day; and were ſucceeded by broad *dry ſcales* on the face, back, hands, and even in the mouth and tongue."†—So far Haller.

* See Peachy's Tranſlation, as above.

† Haller obſerving, that the ſmall-pox afterwards deceitfully returned with increaſed violence, and attended with ſtrangury, remarks as follows: "Was there not an *imperfect criſis* by puſtules; and [did not] the acrid matter, being reſorbed and carried to the kidneys, by its ſtimulus conſtrict the kidneys?"—The following curious paſſage then immediately terminates his paper: "But the variolous puſtules dig pits in the ſkin, ſo that the turgid arteries diſcharge *a tinged fluid* through the orifices of the ſmall cutaneous veſſels into the bottom of theſe pits; and I have ſeen the pus of ſo *inflammable* a nature, as to *burn very briſkly*. But I never met with puſtules in a dead body beyond the pharynx, in any of the viſcera. The *firm epidermis to confine* the pus, ſeems neceſſary, in order to the formation of the puſtules. But the inteſtines are uſually ſo much affected, as being ſoftened and in a manner macerated in the pus, they are very eaſily torn even by injection alone." [N. B. See Cruikſhanks as to the ſeat of the puſtule.]

Perhaps it may be worth remembering here, that there are many inſtances where the infectious matter of the ſmall-pox and kine-pox, applied to perſons who have before *paſſed through thoſe diſeaſes reſpectively*, has been capable of producing a repreſentation more or leſs perfect of certain of their ſymptoms.

IV. Another ſpecies of connection between diſeaſes is ſeen, when diſorders *intermix* with each other, in the ſame patient and in the ſame moment of time, by a certain alliance.—This may ſo happen, that one ſhall appear as the mere ſymptom of the other; as ſore eyes, and cough, and looſeneſs ſeem to be ſymptoms of the meaſles, during the primary diſeaſe of meaſles. Syphilis and gonorrhea alſo, if they be really diſtinct diſeaſes, are alſo in many caſes found blended with each other in the ſame patient.

V. The laſt connection, or here I ſhall rather call it *correſpondence*, which I ſhall mention between diſeaſes; is where one is *vicarious* with reſpect to another; that is, is of a nature to *repreſent and perform the offices of the other*. A more brilliant inſtance cannot be produced, than that of the ſubſtitution of the *kine-pox* for the *ſmall-pox*. The kine-pox poſſeſſes all thoſe ſecret influences upon our frame, by which it diſables us from receiving the ſmall-pox; in this, exactly imitating the ſmall-pox itſelf, which almoſt univerſally ſhuts the door againſt its own return, whenever it retreats from its viſitation of any individual; as if it had there deſtroyed the means and pabulum of its own exiſtence on every future occaſion.

And here let me be forgiven for expreſſing my admiration at the power of vaccination, (under our preſent notions at leaſt of its efficacy,) in ſecuring us from the ſmall-pox in all its forms. Inoculation of the ſmall-pox had already accompliſhed wonders of an inferior kind. It had turned the current of the ſmall-pox from the confined vitals, to the *open ſkin*; where the healing air has acceſs to the parts which are moſt affected; where the ravages of the diſeaſe, if they do occur, are leſs important, than

when falling upon the vitals; and where the matter of all the puſtules has a ready iſſue.*—But what vaccination propoſes to do, is far beyond this; eſpecially as it removes the mortality which inoculation itſelf ſpreads, in conſequence of its extending the infection in a natural form. The prevention of one ſerious diſeaſe by the infliction of another mild one, which is of itſelf borrowed from another race of animals, (inſtead of our retaining that ſerious diſeaſe to multiply its fatal likeneſs, and to introduce new caſes of calamity;) is a ſingularity hitherto not even looked for in medicine. It may perhaps be conſidered as a peculiarity on this occaſion, little leſs worthy of notice, that an attempt to extinguiſh a diſeaſe ſo lucrative to practitioners, as the ſmall-pox, ſhould have excited but little intrigue; that vanity alſo ſhould have called up only a few oppoſers; that few real difficulties ſhould have occurred to be ſolved reſpecting the progreſs or the management of the kine-pox; and that the knowledge of the inoculation for this new diſeaſe ſhould have ſpread itſelf more rapidly over the globe, than any other human invention. Perhaps in the end, we may find, that it is ſcarcely to be called a human invention; and that men have only been uſed as inſtruments reſpecting it. In the mean time, we are allowed to hope, that it will go on to juſtify itſelf as one of the firſt improvements in medical practice, as well in ſtatiſtical economy; at the ſame time that it offers a grateful ſafeguard to our private feelings. It would indeed be no diminution of the effective value of this meaſure, ſhould the ſmall-pox itſelf be ſuppoſed heretofore to have had *one and the ſame origin*

* I do not pretend to ſay, that the puſtules are generally found internally in ſmall-pox; for I know to the contrary; and perhaps puſtules may form one of the advantages of inoculation, eſpecially as their diſcharge is outward. But if the remark of Haller be true, reſpecting the ſtate of the inteſtines in the malignant form of ſmall-pox; charcoal, oxygenated air, and other materials, may be given by the mouth and by injections, to meet the variolous matter in the inteſtines; and a farther proportion of oxygen may be made to enter the ſyſtem through the lungs.

with the kine-pox; in ſhort, to be only a more formidable ſpecies of kine-pox attended with contagion; which in our day, is thus exchanged for a gentler form of it. The *wonder* of the caſe may ceaſe, but not the bleſſing. Perhaps ſo ſimple a repreſentation of the tranſaction as this, if generally received, might even extend the bleſſing; by reconciling every individual to a belief of the general truth in queſtion, and of the practical advantages to be drawn from it. In the mean time I cannot but remark, that to the Britiſh nation and their deſcendants, are owing the introduction of the *inoculation of the ſmall-pox and the kine-pox;* and the proper management of the two diſtempers.

I ſhall only remark farther on the ſubject of ſecondary diſeaſes, that as ſo many of them are enliſted in the train of the ſmall-pox; it may be wiſe, while our opportunities ſtill laſt for making diſſections of the dead in this diſeaſe, to purſue our obſervations on the ſubject. If the ſmall-pox ſhould finally yield to vaccination, the knowledge obtained may ſtill be uſeful; as all diſcoveries into nature have commonly more than one application.*

* Before diſmiſſing the ſubject of Sydenham and the ſmall-pox, let me mention, that when Sydenham is praiſed (as by Haller for example,) for teaching the uſe of freſh air in this diſeaſe; the praiſe ſhould be meaſured. He diſcouraged heating medicines, heating diet, and heated rooms and beds; but he commonly ſhut up his patients out of the way of the *open air*, as ſoon as he diſcovered the diſeaſe. He even put them to *bed* on the fourth day of the eruption; though he was ſomewhat leſs ſtrict as to the bed in very hot weather, and likewiſe in the caſe of ſlight eruptions or of inflammatoty habits. If delirium alſo occurred, he took the ſick a little while from their beds; and if they had ſtrangury, he had them led twice or thrice acroſs the room, having found this advantageous. But though he knew of many inſtances where a caſual riſing from the *bed*, and of ſome others where a caſual *expoſure to the air*, or the drinking of cold water, had led to cures in *deſperate* circumſtances; yet the benefit obtained in extreme caſes by extreme means, did not lead him to try the ſame or more moderate means in milder caſes. But notwithſtanding this, Sydenham, for ſagacity, candour, courage, and a ſenſe of the true duties of a phyſician, may ſerve as an univerſal model to his profeſſion; and the extent of his merit may well be learned from this ſingle circumſtance, that throughout his life he was under a conſtant neceſſity of appealing from his cotemporaries to poſterity, in favour of truth.

Of Inoculation for the Meaſles.

The beautiful practice of inoculation for the ſmall-pox, which was long employed in various parts of the eaſt, before it was even known either in Europe or America; has been imitated for ſeveral other diſeaſes in Europe; and, among the reſt, for the meaſles.

It is now nearly half a century, ſince Dr. Francis Home of Edinburgh propoſed this meaſure for meaſles. Dr. Percival ſays, that it was "practiſed in ſeveral inſtances with conſide-"rable ſucceſs; the ſoreneſs of the eyes being mitigated by "it, the cough abated, and the fever rendered leſs ſevere. Dr. "Home's method of communicating the infection was, by "applying (to an inciſion in each arm) cotton moiſtened with "the *blood* of a patient labouring under the meaſles. But the "morbillous matter (adds Dr. Percival) has ſince been en-"grafted, by means of lint, wet with the *tears* which flow "from the eyes in the *firſt* ſtage of this diſorder. It is to be "lamented (continues Dr. Percival,) that ſo little attention has "been paid to this valuable improvement of the healing art."* Dr. Underwood agrees, that report was favourable to what Dr. Home had done: and ſays that the practice ſeemed at one time to have been imitated in Sweden. Dr. Beddoes alſo appears to think well of it. But Dr. Underwood and Dr. Beddoes ſeem to admit, that it is now little attended to in Great Britain.†

One reaſon perhaps of this general neglect is, that meaſles are chiefly contemplated by ſome, as only dangerous in their primary form; that by others, the fury of the firſt diſeaſe

* London Medical Obſervations and Inquiries, 5. 285-286, and Home's Medical Facts and Experiments.

† Underwood on the Diſeaſes of Children. 4th Edition. I. 297, and Medical Abſtracts. 4. 239. 4th Edition.

has been eaſily quelled, and the occurrence of the ſecondary diſeaſe eaſily prevented; and that meaſles do not, like the ſmall-pox, permanently deform the human countenance. If there are any ſtronger reaſons than theſe, for the diſuſe of the practice, they ought to be made known by thoſe who are poſſeſſed of them; otherwiſe the experiment ought to be reſumed.

Of Diſſections.

The only ſolid obſervations made in this letter, having been founded upon diſſections, it would be wrong to quit this ſubject without obſerving, that ſince the benefits to be derived from opening the bodies of thoſe who die of ſingular diſeaſes, is commonly evident; the privilege of doing it ſhould oftener be ſolicited. In our town, the indulgence is now ſeldom refuſed; as it is never ſought but upon critical occaſions, and is frequently attended with uſeful diſcoveries. When the ſurviving friends (in addition to the intereſt they take in the information obtained,) obſerve decorum, neatneſs, and a deſire to prevent trouble, in the operator; one diſſection commonly leads to another, even upon the ſuggeſtion of the friends of the deceaſed. This the more readily happens, as a few perſons of conſequence have led the way. Diſſections have alſo in general the advantage of calming the friends of the deceaſed, as to the *neceſſity of the death which has occurred*; eſpecially where the diſeaſe has been treated prudently, and by rule. A man of judgment at the ſame time will perceive, that the appearances in the dead body, however certainly they may point out the *immediate* cauſe of death, will have ſometimes proceeded from the errors of the practitioner, as well as from the primary diſeaſe. This reflection will ſeldom embarraſs a pretender; nor ought it to diſcourage a man anxious to improve, either himſelf, or his art, which is ſo neceſſary to mankind.

Before I quit this ſubject, I ſhall venture to hint, that a little *treatiſe on the art of diſſecting* ſeems a deſideratum in modern times. It is not merely neceſſary to learn how to prepare the head, the thorax, or the abdomen for diſſection; which is all that is taught on this ſubject by Mr. Benjamin Bell. The young practitioner ought to know (what is not always taught even by anatomiſts;) I mean, the general ſize, form, weight, colour, conſiſtence, and habit of each organ, in *a ſtate of health*, according to age and to ſex; and all this ſhould appear within the compaſs of a ſmall number of pages. The practitioner ought to be informed too what diſeaſes are related to each other; what parts have concern in each diſeaſe; and under what form each diſeaſe operates upon each part. I have ſeen a diſſector ignorant of the moſt ſimple things; when the propoſed treatiſe, conſulted even while he had the knife in his hand, might have informed him. Much may be learned in the examination of the dead, without delicate ſkill or profound knowledge; and phyſicians, apothecaries, and curious perſons poſſeſſed only of a ſlight knowledge of anatomy, might ſoon be qualified to perform many uſeful *inſpections of the dead*. The knowledge of the ſeats and of the internal effects of diſeaſes, would thus be perfecting itſelf, by means more extenſive than any now employed; and the knife, inſtead of chiefly inſtructing the mere anatomiſt and ſurgeon, would enlighten the perſon, who after all, *has moſt to do with the human body*, namely, the phyſician.

One chapter ought to be devoted to diſeaſed appearances; as aneuriſms, hydatids, polypi, calculi of different kinds, tubercles, ſchirrus, and cancer. And with reſpect to cancer, I think the work of Mr. Adams on cancerous breaſts deſerves conſultation, as exhibiting hints which require to be further examined.

Another chapter may be given to an enumeration of the points proper for the diſſector to notice, in the written account of his diſſections. And here Dr. Stark's mode of *comparing*

the ſymptoms with the morbid appearances, is much to be commended; and Dr. Baillie likewiſe has done well in generalizing the accounts of the ſymptoms. If the method of treatment uſed could alſo be given, and given with accuracy and candour, it might ſafely be recommended.

A third chapter may detail the *preparatory* meaſures to be taken in every diſſection; and they are very few.

A fourth may include the ſteps neceſſary to ſecure the operator from danger in critical caſes. It has happened to me, as it doubtleſs has to you, to have had ſeveral of my acquaintance die or become dangerouſly ill, from the infection conveyed by the puncture of the diſſecting knife, or the effluvia from a dead body. As I am not of the profeſſion, but merely *amicus curiæ*, I may with propriety teſtify, that a zealous practitioner among the ſick and dead, runs more hazards to his health and life, than he has credit for; and has therefore to add theſe to his other claims for remuneration. No profeſſions, however generally ſpeaking, are worſe rewarded than thoſe of the medical practitioner, the clergyman, and the ſchool-maſter, as far as depends on voluntary pay; ſo careleſs, in appearance, are we of our bodies and ſouls, and the improvement of our intellect.

If the plan above recommended were ſenſibly purſued, I think a few engravings would be added, conſiſting almoſt ſolely of *outlines*.* The parts might firſt be ſhewn *in ſitu*, and afterwards ſome of them might be given in different ſections or layers; and ſome of them might be exhibited ſeparately, as the inteſtines; (which might be ſhewn firſt in one extended line, with their membranous attachments; and then convoluted; with letters ſerving for reciprocal references between the

* If more than outlines be given, and colours be rejected, the parts may be diſtinguiſhed from each other by the interchange of etching, ſcraping, dots, and lines in the copper-plates.

two.) Indeed I may ſay here, that in order to aid ſurgical *operations on the living*, there are many caſes where tranſverſe and other ſections of parts, as of the limbs, might very uſefully be exhibited,

The two Hunters uſed to boaſt, that when they began their lectures in London, there were few towns in England, where practitioners reſided, who were able to deſcribe a caſe, or a diſſection; but that as they proceeded, the number of theſe ſo increaſed, that there were few towns where one or more did not reſide, capable of managing on theſe occaſions in a reſpectable manner.

The ſame progreſs is now taking place in part of the United States; and the little work propoſed, would conſiderably add to its rapidity.

We may be the more anxious, for ſome meaſures on theſe ſubjects, as by ſubmitting *ſelect* caſes to diſſection, we ſhould perpetually obtain freſh knowledge. Upon this principle, I have myſelf ſeen no diſſection from which I have not learned conſiderably; for, to uſe the remark of Sterne, *an ounce of a man's own ſenſe*, is worth a ton of other people's.*

Concluſion.

But it is time, my dear Sir, to reſign you to Mr. Quier; whoſe piece on meaſles will be found among the "*Letters and Eſſays, by different practitioners;*" publiſhed by Dr. Donald Monro, in 1778. Theſe letters and eſſays were printed in a thin 8vo. volume for Murray in London, and Elliot in Edinburgh; the chief of them having been originally deſigned for a third

* Since this letter was written, I have been preſent at a diſſection, the account of which I ſhall give at the end of Mr. Quier's paper; as furniſhing an example of the uſes of diſſection, and of a caſe of dependent diſeaſe.

volume of the Medical Tranſactions of the College of Phyſicians in London.*

Mr. Quier ſeems to have been a man of ſome abilities; and his paper in oppoſition to Sir George Baker and others, as to the origin of the dry belly-ache of the Weſt Indies, may be given in evidence of it. At the ſame time it muſt be acknowledged, that Mr. Quier preſcribed a raſh doſe of white vitriol in one caſe of his practice, which (if there be no error in his account) probably haſtened the death of his patient.

With reſpect to his little treatiſe on meaſles annexed to this letter, it contains two particulars much to my purpoſe. The one is, that he divides the Jamaica meaſles univerſally into two ſtates; the *feveriſh* and the *dyſenteric*; though with him, the one ſtate follows upon the other without the interval which occurred with us. The other particular is, that his patients retained an inflammatory habit of body for ſome months after the meaſles had terminated; in which I believe it agrees with meaſles in moſt other ſituations. Whatever differences, however, there may be found, either in kind or degree, between the meaſles of Jamaica and other countries, it is proper to become acquainted with them. Symptoms may be elucidated by being exhibited in their more ſtriking forms, or even by their occaſional abſence; new general rules may be pointed out, and old ones may be corrected, by the ſame means; and analogy (as we have more than once hinted) may thus lead to new modes of treating certain other diſeaſes.

As to my own portion of the materials of the preſent communication, I conſider it as offering nothing except as to the diſſections, which *does not require to be varified.* Much of the preſent letter has indeed profeſſedly conſiſted of mere queries

* It is from the ſame collection that I obtained Dr. Hume's extract from the Inaugural Theſis of Dr. Mackittrick Adair, pronounced at Edinburgh in 1766; a theſis not to be found among thoſe publiſhed by Smellie and Webſter.

and conjectures, which may of courſe prove of a very fugitive nature; but, under the doubting ſhape which has been given to them, I truſt they will do no harm, and may tend to uſeful inquiry; in which view alone I propoſe them.

Should any part of what has here been ſuggeſted or collected, have the good effect, my dear ſir, of exciting *you* to apply your original and happy turn of thinking, and your extenſive experience and reading, to the ſubjects to which it relates; I ſhall certainly not regret *my* trouble. Highly important indeed is the principal object of the inquiry; ſince you muſt readily agree, that beſides the deaths from the primary ſtate of meaſles, it is probable that many deaths ariſe out of the *conſequences* of this diſeaſe, which are not placed to its account in the ordinary bills of mortality.

I am, my dear ſir,

Yours affectionately,

And reſpectfully,

— —

DR. BENJAMIN RUSH.

An Attempt to explain, why more Children live that are born at the ſeventh, than at the eighth Month of Pregnancy. By DR. WILLIAM DEWEES.

IT is an obſervation as old as Hippocrates, that children born at the eighth month of pregnancy, are not ſo viable as thoſe born at the ſeventh. This opinion has almoſt univerſally obtained credence, without, as far as I know, any rational explanation being given of it. Hippocrates has attempted it by ſaying, that at ſeven months the child naturally makes an effort to deliver itſelf, in which if it failed, it again attempted at the eighth month, and ſhould it ſucceed, it came into the world weak and infirm, from having exhauſted itſelf by theſe efforts. This hypotheſis

is ſcarcely worthy a refutation, ſince, agreeably to this principle a child at full time, ought to be ſtill more enfeebled, as now it has made three attempts at eſcape. Nor is the opinion of Pythagoras, that, the number eight, is leſs fortunate than that of ſeven or nine, more rational or ſatisfactory.

Thoſe who have controverted this point, have not been more fortunate than their opponents; ſince they have reſted the whole merit of their defence on a ſingle circumſtance of the child, (namely, becauſe it has tarried a month longer in the womb, it muſt be more perfected, conſequently more likely to live) without ever adverting to the contingencies of the uterus or labour at this period of geſtation.

I therefore conceive this opinion of Hippocrates juſt, with this explanation; that a child at eight months is not leſs viable than the one at ſeven; but that its chance for life is diminiſhed, owing to particular circumſtances influencing the uterus and birth of the child. For agreeably to obſervation, we find many ſeven months children reared, but very few of thoſe of eight months. Let us inquire to what circumſtances this may be owing. I believe them to be connected only with the uterus, and entirely independent of the child itſelf.

Theſe circumſtances are, firſt, to a greater power and diſpoſition in the body and fundus of the uterus, to contract and throw off its contents, at the period of ſeven, than at that of the eighth month; ſecondly, on the neck of the uterus being at this period more powerfully conſtrained to relax or yield to theſe contractions.

That the body and fundus are more diſpoſed, or more violently induced to contract at this time, I infer, from their being now ſtretched to the greateſt limits they can bear with impunity; and when thus ſtretched are ſtimulated to contraction: this contraction is manifeſt to the touch if the finger be introduced through the os tincæ. They have now alſo, a difficulty to overcome which is eſſential to the further progreſs of geſtation, which is the reſiſtance the neck makes to developement, and it

is well known the uterus contracts in proportion to the obſtacles which oppoſe it.

Until the ſeventh month, the body and fundus afford almoſt excluſively the neceſſary room for the continually increaſing ovum;* this happens from, Firſt, the germ being depoſited within their cavity, and conſequently acting immediately on their fibres, which it diſtracts in all directions, but more eſpecially in their longitudinal: Secondly, to theſe fibres being longer and more lax than thoſe which compoſe the neck; the former therefore, oppoſes but little to the ovum, whereas the latter does a great deal. This is a wiſe proviſion of nature, otherwiſe abortion would always take place.

But this diſpoſition to diſtention has its limits;—and the reſiſtance of the neck cannot be maintained beyond a certain period; this period is when the body and fundus are thoroughly developed, which happens for the moſt part at the ſeventh month. Theſe parts now refuſe, or cannot, without injury or pain, be ſtretched any farther; they will conſequently contract from the ſtimulus of diſtention; the influence of this contraction muſt be felt ſomewhere, and this where there is the leaſt reſiſtance; and this will be at the neck of the uterus, which will not only be paſſive, but open to a certain extent, and over the aperture of the pelvis; while the body and fundus are not only in a ſtate of action, but are defended and ſupported by the abdominal muſcles, &c. This reſiſtance and action of the upper parts of the uterus continuing, and their contents augmenting, conſtrains the neck to develope, as its reſiſtance is only paſſive.† By this arrangement the neck of the uterus after the ſeventh month, is obliged to afford all the room neceſſary for the future increaſe of the fœtus, &c.

From the balance of power being now in favour of the body and fundus, and this being exerted on the neck; it fol-

* Baudelocque, Denman, &c. † Baudelocque.

lows, it muſt either yield, or the uterus muſt rupture; but as the uterus never has been ruptured in this way, we have a right to infer, that there is a diſpoſition in this part to expand when acted upon by them. Now, ſhould this diſpoſition be greater than ordinary, or in other words, ſhould the reſiſtance be inferior to the action it has to counteract, the whole neck will be ſpeedily developed and the fœtus will eſcape through it without difficulty or danger; and that this diſpoſition, or rather obligation to unfold is greater at this period than at any other, is rendered probable; firſt, from not only the contractions of the body and fundus being ſtronger; but being more powerfully felt from their being new, and conſequently the parts oppoſing them more influenced by them; and ſecondly, from a partial diſtraction of their fibres having been effected by theſe efforts, the neck is irritated, and ſuch is the economy of theſe parts, that when this happens the contractions of the fundus and body are more powerfully and more frequently renewed from ſympathy, ſo that the neck is indirectly concerned in its own diſtention.

That the power of the fundus and body is greater both poſitively and relatively at this period, than at any other, I conclude, firſt (poſitively) from their fibres being but lately ſtretched to their greateſt extent, and of courſe their ſtrength not diminiſhed as it afterwards is by the long continuance of this ſtate; and ſecondly, (relatively) from reſiſtance being now given to the farther developement of the fœtus, they are powerfully ſtimulated by its continual augmentation, and contract in proportion to the exciting cauſe.

We need not therefore be ſurpriſed that abortions frequently happen at this period; for the neck now is to furniſh the whole of the required room for the increaſing bulk of the ovum: it is therefore conſtrained, by the powers juſt mentioned, to unfold; which if it does in a juſt proportion, no evil will enſue; but ſhould this not be the caſe, and it ſhould yield too readily, premature birth will be the conſequence.

Therefore ſhould the neck of the uterus withſtand the influence of the body and fundus after their firſt efforts are manifeſted, the preſumption is, it will reſiſt it, to the full period of geſtation.

Three cauſes co-operate to this end; firſt, the contractile power of the fundus and body will rather be weakened from long diſtention, and in ſome meaſure from their becoming accuſtomed to its ſtimulus; ſecondly, to this ſtimulus being rather diminiſhed now, ſince the ovum does not increaſe as rapidly as formerly, and to more room being allowed for that increaſe by the augmentation of the neck; and thirdly, to the neck being now leſs paſſive; for as it is forced to develope, or augment in width, it becomes incorporated with the body and acts with it, ſo that when contraction is excited, all the fibres act at one and the ſame time, and ſuch is the nature of this contraction at the eighth month and at after periods, that it tends to ſhut the mouth of the uterus; and hence we ſee at this period very few ſpontaneous premature births.

For the reaſons juſt aſſigned, there is no time of geſtation at which the uterus yields ſo unwillingly as at the eighth month; and this emphatically accounts for the obſervation, that eight months children do not ſo frequently live as thoſe of ſeven; for we find that at ſeven months the mouth of the uterus will yield to the internal agents ſometimes very readily, conſequently the child does not ſuffer the evils of a long and protracted labour, nor the influence of external agents: whereas at the eighth month, it almoſt always requires the concurrence of external cauſes or violence to throw the uterus into contractions; hence, children of this period ſeldom live, for they have not only to contend with all the violence that may be offered externally which is capable of producing uterine contraction, but alſo, with all the accidents that may ariſe from a ſevere and protracted labour, as well as to their being uſhered into the world before their final uterine developement: we need not wonder therefore ſo few ſurvive theſe evils.

A great variety of inſtances might be adduced to prove the ſafety and frequency of abortions at the ſeventh month; Van Sweiten mentions ſeveral:* La Motte† alſo furniſhes them; he not only tells us of its happening more than once to the ſame woman, but alſo to her daughters, ſo that with them it appeared conſtitutional. I myſelf know a lady who has been delivered five different times at the ſeventh month or very little more, all of which children, (with one exception) are now living and healthy.

Mauriceau,‡ however, oppoſes this opinion; he ſays children born at the ſeventh month very rarely live beyond 15 days. To reconcile theſe different ſentiments is perhaps not very difficult, as I conceive very much will depend on the opinion the accoucheur or midwife may have, of their chance to live. For it can very readily be imagined that very little attention will be paid, where ſuch ſtrict duties are required, if it is pre-ſuppoſed thoſe attentions will be un-availing or thrown away; while on the other hand we can readily believe that many may ſurvive, who have that care beſtowed upon them, their delicate frames require. Thus we ſee of how much importance a preconceived opinion may be, and what different reſults may follow from the ſame premiſes.

It would certainly be erring on the right ſide to ſuppoſe, that all children born alive after the fifth month may, by proper attention be reared; and that we ſhould never remit in our exertions and care towards them, however unpromiſing our reward may be. We have inſtances upon record of children at five months being raiſed to manhood and old age. Thus we are told that Fortunius Licetus§ was an abortion of the fifth month, in conſequence of a ſevere fright his mother received from a

* Comment. § 1310.

† Traitè des Accouch. liv. I. chap. 28. p. 122.

‡ Liv. II. chap. 2. p. 204 and 205.

§ Baillie Jugem. des Scavants, tom. V. part, I. p. 239.

ſtorm: when he came into the world he was no bigger than the palm of one's hand. His father, a phyſician, cheriſhed his little body with great care by means of a furnace heated to a proper temperature by artificial means, (after the Egyptian method of hatching eggs,) and alſo inſtructed the nurſe in the proper mode of nouriſhing it. He had the good fortune to reap the fruit of his diligent ſolicitude and care, by his growing up to manhood, and becoming famous for many works of erudition; he lived to nearly the age of four-ſcore. Another inſtance may be given not leſs extraordinary, and of more recent occurrence.* "A fœtus at five months of pregnancy was delivered alive, but puny and weak to exceſs; it did not cry, and ſeemed hardly able to breathe; its eyes were cloſed, the limbs flabby and relaxed; ſome little motion, and the warmth of its body were the only ſigns of life it exhibited. It was wrapped up in ſoft linen, and ſupported by a proper degree of heat; a little luke-warm milk was given it drop by drop; this it ſwallowed; it continued preciſely in this way for four months; its motions were very inconſiderable, and it uttered no cry; it voided no excrements. At the expiration of the four months, it began to cry, to void excrements, to move its body, to ſuck, and to grow like other children; ſo that at the end of 16 months, it exceeded in ſize ordinary children of that age."

Theſe inſtances prove to us how careful we ought to be in pronouncing weak fœtuſes not viable. It would indeed be a good rule to treat all ſuch children as though there was a certainty of their living; nay, this appears an indiſpenſable duty, ſince we have no right to withhold our attention, however tedious or fatiguing it may be, becauſe many have died who were delivered at this period. The anxious ſolicitude of ſome patients has reſcued many poor little unfortunates from an untimely grave: if then our affection prompts us to exertions of this kind, humanity and duty ought ſurely to have equal claim.

* Brouzet. Eſſai ſur l'Education Medic. &c.

I am at this time attending a little creature now a month old, that was born at little more than the ſixth month. When it came into the world, the little noiſe it made did not amount to a cry, but it ſtirred its little limbs with conſiderable vigour, and after a few days was enabled to take ſufficiently of whey ſweetened with loaf ſugar, to nouriſh its feeble frame; it now ſucks its mother frequently during the day and night, has regular evacuations, cries audibly, and promiſes fair to be reared without much more than ordinary trouble.

Thus I have related inſtances of children living, that were born at the 7th month, and even at a much earlier period; but am not able to give any one, from authors, that was born at the eighth month. What has occurred in my own practice, goes to ſupport what I have already advanced, that children born at the eighth month, more rarely live than thoſe born at the ſeventh.—I know but of three inſtances of children living that were born at the eighth month, and theſe three were from the ſame lady, who habitually was delivered at this period: her labours came on ſpontaneouſly, advanced favourably, and were ſpeedily terminated. All other caſes of labour, *that I have ſeen at this period*, were preceded by more or leſs of external violence, or frights; the uterus was therefore ſurpriſed (if I may uſe the expreſſion) into contraction, and therefore performed its duties irregularly and with reluctance. The os tincæ now not only yields leſs willingly, (from whatever cauſe) but the increaſed volume of the child, offers more reſiſtance to its paſſage; the union of theſe cauſes protracts the labour to a conſiderable period, ſo that the child either periſhes before it is born, or elſe is expelled ſo very much exhauſted, that it ſurvives its birth but a ſhort time.

From what has been ſaid, I think we may ſafely draw the following concluſions: Firſt, that children born at the ſeventh month, have, from the contingencies mentioned, a better chance of life than thoſe born at the eighth month. Secondly,

that children born at the eighth month, though more viable strictly speaking, yet from the circumstances of labour at that period, are more exposed to danger than those at the seventh, and hence their diminished chance of life. Thirdly, that of those children born at the eighth month and those of the seventh (cæteris paribus,) more of the former would live, than of the latter. Fourthly, but from the nature and physiology of the uterus itself, there ever will be more seven-months children reared, than of eight.

Philadelphia, Jan. 8th, 1805.

An Account of a Case of Wounded Brain. By JOHN SYNG DORSEY, M. D.

Arch street, 20th November 1805.

DEAR SIR,

IN compliance with my promise, I send you a short account of a case of injured brain; should you think it sufficiently important to be made public; you will, by assigning to it a place in the Medical Museum, gratify

Your friend and servant,

J. S. DORSEY.

DR. J. R. COXE.

On the 19th October, 1805, I was requested to visit in consultation with Dr. Gardner of Derby, a boy aged about twelve years, who in the morning had received a severe blow from the hoof of a horse. As he was seven miles from the city, I did not

ſee him, until ſix hours after the accident had happened. I was informed that he was ſtunned by the blow, but ſoon recovering, roſe upon his feet and walked; he had not however proceeded far, before he became ſick, and fell. He was taken up and carried into the houſe, which was but a ſhort diſtance from the place where the accident occurred. A wound was obſerved upon the back part of the head, juſt above the left ear, from which ſome blood flowed, but the quantity loſt was inconſiderable.—When he was put into bed he became ſick, and vomited twice.

At ſix, in the evening, I ſaw him, and found him free from pain, nauſea, and coma: he was lively and did not appear to have ſuffered much. His pulſe was ſomewhat depreſſed. Upon examining the head, a wound, an inch and a half long, ſituated about an inch from the lambdoidal future anteriorly, expoſed to view a large and very deep indentation of the ſkull—the bone was not thicker than the paſteboard uſed to cover books, and a conſiderable portion of it was beat in half an inch below the remaining unbroken portion, ſo that it was eaſy to introduce the finger between the ſkull and dura mater at this part. Notwithſtanding all this injury, there was no nauſea, no affection of mind, and very little apparent diſturbance to the functions of the patient: there ſeemed, however, no propriety in ſuffering the bone to remain depreſſed, as in all probability, it would have occaſioned dreadful conſequences.

A free inciſion was made through the ſcalp, enlarging very conſiderably the original wound. The poſterior and inferior part of the parietal bone was found broken in pieces, and preſſed upon the brain. As there was no opening large enough to admit an inſtrument to remove the depreſſed pieces, it became neceſſary to apply the crown of a trephine to the ſolid part of the ſkull. It was applied as near as poſſible to the fracture, and a ſegment of bone was removed, forming rather more than a ſemicircle. This opening enabled me to introduce

the levator and to raiſe the depreſſed pieces, to their proper level. A fragment of bone very ſharp, two-thirds of an inch long, had been forced through the dura mater, and was found imbedded in the brain; a ſmall portion of it projecting upwards, was ſeized with a pair of forceps; and when it was removed a conſiderable diſcharge of blood followed, but a doſſil of lint put an end to the hemorrhage: a ſoft, light poultice was applied, and an abſtinence enjoined from all food, excepting toaſt and water. Dr. Gardner concurred fully in the propriety of copious depletion, and conducted the patient to a complete and ſpeedy cure. The wound healed without difficulty, and the patient now enjoys good health.

The inſtances of recovery from wounds of the dura mater are ſufficiently rare, to warrant us in recording every encouraging caſe.

Account of two Albinos. By DR. JOHN VAUGHAN.

Wilmington, (Del.) Oct. 26th, 1805.

SIR,

LUSUS NATURÆ, or, the apparent ſportings of nature, are not only ſo afflicting in ſhape, but ſo equivocal in kind, as to demand the attention of phyſicians. Man is not only "fearfully and wonderfully made" in general, but ſometimes grievouſly and *wonderfully* deformed; hence it is our duty to record, and as far as is practicable, to examine, every deviation from the ordinary courſe of things, in the hope of finally remedying the incidental evils of our nature.

I had for ſome time attended to the progreſs of two caſes of albinos, that exiſt in this borough, and was examining into the hiſtories and ſuppoſed nature of the deformity, when the

receipt of the ſecond number of the Medical Muſeum, put an end to the inquiry, by anticipating the opinions of ſeveral phyſiologiſts on the ſubject: it, however, may be uſeful to add theſe caſes to thoſe already publiſhed.

The albinos are the children of reſpectable parents, without any evident deformity or hereditary taint. Their two firſt children are perfect—the third child and firſt albino, is now four years of age, and a healthy active boy. The firſt peculiarity obſerved in his caſe, was, what the parents termed "a red ſtreak acroſs the ſight of each eye," but which probably was a ſhade of redneſs from the iris; and in the latter part of the month, this redneſs diſappeared, and a quivering motion of the eyes occurred. It was doubted by the parents, whether the child could ſee or not, but as he grew it proved to be the common defect of an albino; and when he began to go about the houſe, he uniformly ſhunned the ſun-ſhine, nearly cloſing the eyes in a clear light, but in cloudy weather and from ſun-ſet until dark he was merry and playful as any of his companions. As he grows his eyes become ſtronger and their vibratory motions leſſen.

The fourth ſon, and ſecond albino, is now two years of age, and in every reſpect ſimilar to the preceding. The only apparent defects in the eyes of theſe children, are their perpetual vibratory motions, and large pupils. The iris is grey, and not, as is more common with albinos, red; and their complexion is pallid, and hair of a light colour.

The varieties obſervable in the albino perplex inquiry not a little. The caſes mentioned by Mr. Jefferſon, are the only ones which I recollect, of a vibratory motion of the eyes. Such was not the caſe with the famous boys of Chamouni, nor with many others on record; though in the caſes of the ſubjects of this letter, the motions of the eyes are ſo rapid and perpetual that an obſerver might reaſonably ſuppoſe viſion to be altogether precluded.

The "ſtreak" of redneſs obſerved in the month, and which diſappeared when the vibratory motion of the eyes took place,

is a phenomenon not mentioned in any hiſtory, that I have ſeen. I have ſuppoſed it to be owing to a primary ſhade of redneſs in the iris, which diſappeared when the vibratory motion commenced. This, however, is mere conjecture.

The deformity is, in theſe caſes, evidently accidental. The two previous children were free from any thing of the kind; and from an extenſive knowledge of the relatives, there is no reaſon to ſuppoſe an hereditary taint.

If, as Mr. Buzzi ſuppoſes, an inordinate appetite for milk, will produce this mal-conformation of the eye, a query ariſes, whether it be the exceſſive uſe of milk during uterine-geſtation, or the untoward conſequence of inordinate deſire, merely? If the former, this would be a common deformity in dairy countries; and if the latter, it will add a new blemiſh to the *direful* catalogue of nevæ maternæ! It would have been rational in Mr. Buzzi to impute an unnatural and inexplicable event to any equally unnatural cauſe; but it is much to be doubted, whether the ſuppoſed cauſe, in this caſe, bears any ſort of relationſhip to the nature or degree of the event—I cannot but doubt both.

JOHN VAUGHAN.

DR. JOHN REDMAN COXE.

Hiſtory of a Caſe of Introſuſception. *By* WILLIAM SHAW, M. D.

Philadelphia, Nov. 1ſt, 1805.

DEAR SIR,

I HAND you the hiſtory of a very ſingular caſe of introſuſception, which you may give a place in your Muſeum, if you ſhould think it worthy of publication.

J. A. became a patient of mine ſome time ago; he had fever with ſlight paralyſis of his lower extremities; for which he was bled and had a mild cathartic given him, and this was repeated on the third day: his diet was ordered to be mild and nutritive. At the end of ten days he appeared ſo far recovered as to require no more medical aſſiſtance.

A few days after he was ſeized with diarrhœa; he did not make known his complaint until the ſeventh day. By this time he was very much reduced, but by the operation of a little caſtor oil followed by a mild aſtringent medicine, his diarrhœa was ſtopped about the end of the third or fourth day, when his appetite began to return, and his ſtrength ſeemingly to increaſe.

Four days had elapſed when the paralyſis of his lower extremities returned, accompanied with ſickneſs at his ſtomach, which ſometimes amounted to vomiting; feeble and irregular pulſe, with his countenance very much dejected; he ſaid he felt as if his bowels were turning from one ſide of his body to the other, and ſometimes they ſeemed to move from below upwards, ſo as to affect his breathing; all this time he complained of very ſevere pain. He was ordered a doſe of laudanum (it being late in the evening): next morning he died. I opened the body ſoon after death; the contents of the thorax were in a healthy ſtate: upon opening the abdomen, I found the ſtomach, duodenum, and about half of the jejunum very much diſtended with wind, the other part of the jejunum was filled, or nearly ſo, with more than half of the ilium next to it. At the commencement of this introſuſception, a ſtricture exiſted which nearly cloſed the inteſtine: three other ſtrictures were found in the lower portion of ilium; and at each of thoſe ſtrictures a portion of inteſtine below, was received into that immediately above, one of about ſix, one of four, and a third of two inches. The whole of the ſmall inteſtines ſhowed a high degree of inflammation to have exiſted before death, and a part of the largeſt in-

troſuſception was already in a gangrenous ſtate. The received portion of inteſtine was very readily withdrawn from the receiving.

Would not the ſurgeon be warranted in attempting an operation for the cure of this diſeaſe where the ſymptoms ſo plainly evinced its exiſtence as in the above caſe? There can be but two material objections urged againſt the operation, viz. the fallacy of ſymptoms in diſeaſes, and the fear of ſubſequent inflammation from expoſure of the contents of the abdomen, during the operation, to the influence of the air. The firſt ought always to be a ſerious objection while any doubts remained of the preſence of the diſeaſe—the ſecond ought not to operate one minute as an objection after the firſt was removed, and the common means proved ineffectual. We have many inſtances where, in conſequence of wounds, the contents of the abdomen have been expoſed for a length of time much greater than would be required for performing the propoſed operation, and yet the perſons have recovered. One of thoſe dreadful caſes, came within my knowledge: the man received a wound in the abdomen by falling on a ſharp inſtrument which paſſed into the cavity and let out a portion of inteſtine; he afterwards walked about three miles with the inteſtine in his hand, and by having the neceſſary means uſed, recovered in a reaſonable time.

Yours, &c.

WILLIAM SHAW.

DR. JOHN REDMAN COXE.

Account of two Cases of Stricture of the Urethra, removed by Tobacco Bougies. By WILLIAM SHAW, M. D.

Philadelphia, Nov. 1st. 1805.

DEAR SIR,

THE following is the result of two experiments which I made with the nicotiana tabacum in the cure of strictures of the urethra. It is too well known to surgeons, that the disease in question often baffles every attempt to remove it; and I am of opinion that every fact relative to the cure of so painful and so distressing a disease should be made known. If publishing the history of those experiments, should be the means of giving relief in a single instance, I shall feel myself amply rewarded for the time I have spent in copying them from my notes.

T. B. laboured under a stricture of the urethra seated near the prostate gland about nine months. This disease owed its origin to an improperly treated gonorrhœa.

It would be too tedious to relate minutely all the different methods that were employed to remove it: Suffice it to say, that many trials were made with the common bougie; the gum-elastic catheter, &c. blood-letting general and local, blistering on the perinæum, several courses of mercury, all the routine of diuretics, &c. and a spare diet: as a last resource the caustic was proposed by my worthy friend Doctor Physick; but previous to the trial with the caustic, I was induced, from having frequently evidenced the very powerfully relaxing effects of the nicotiana in the cure of spasmodic diseases, to make the following experiment, viz.

A ſmall-ſized bougie was procured, around which I wrapped a thin ſmooth leaf of ſtrong tobacco, previouſly moiſtened with water, ſo as to enable me to give it a degree of ſmoothneſs, that it might with more eaſe paſs into the urethra. My bougie being firſt moiſtened in a decoction of tobacco, was very gently introduced into the urethra down to the ſtricture, where it was kept moderately preſſed againſt it for the ſpace of about fifteen minutes, when it paſſed the ſtricture and went into the bladder: at this time my patient complained of ſickneſs at his ſtomach, and although it was in the coldeſt ſeaſon of the year, a conſiderable moiſture appeared on his forehead; immediately after the bougie was withdrawn he diſcharged upwards of half a pint of urine, which flowed in a natural ſtream: the bougie was introduced twice afterwards the ſame day, and repeated daily for two or three days, without the leaſt difficulty: he has continued free from the diſeaſe ever ſince.

The ſucceſs I met with in the above caſe, led me to make trial of my bougie, with a ſmall improvement, in a ſecond and very ſimilar caſe which occurred to me a ſhort time after—This was an elderly man who had by times ſuffered greatly from a ſtricture which exiſted about the commencement of the bulb of the urethra. This caſe had been treated in every reſpect ſimilar to the foregoing, and with no better ſucceſs. I made an extract of nicotiana and covered a ſmall bougie with it, and having rendered it ſmooth, I moiſtened it in ſome of the ſame extract liquified by the addition of water: I made an attempt to introduce it into the urethra, which ſucceeded after a few minutes gentle preſſure with the point againſt the membrane, which formed the ſtricture; a ſimilar ſenſation of ſickneſs and debility took place in this as in the other caſe, while the bougie was in the penis; the operation was repeated two or three times after this, which produced ſuch torpor and relaxation of the ſphincter veſicæ as to render him incapable of retaining his urine; however,

this inconvenience was removed, by taking a few drops of the tr. canthar. About ſix months after, I ſaw my patient, when he informed me that he had remained entirely free from every ſymptom of the diſeaſe, during that time.

Yours, &c.

WILLIAM SHAW.

DR. JOHN REDMAN COXE.

On the Effect of Fear in Dropſy. Communicated to DR. RAMSAY, *Charleſtown, (S. C.) by* PAUL HAMILTON, *and tranſmitted to the Editor, by* DR. RAMSAY.

THE following effects of fear on a dropſical man, is brought to my recollection, by the peruſal of Howard's Eſſay, on the Hydropic State of Fever—See page 32, of the eſſay.

In the year 1779, while general Moultrie at the head of the American army was retreating before the Britiſh, under general Prevoſt who then invaded this ſtate, a German named William Spoon, whom I knew well, one of Moultrie's militia, during a ſmall halt which he made at Tulifinny, was placed on ſentry: the enemy coming on, Moultrie reſumed his retreat, and in the confuſion, the officer whoſe duty it was, neglected to call Spoon off from his poſt: Spoon remained ſo much longer than was cuſtomary, that he at laſt determined to return to camp with a friend of his, named Otts, alſo a German, whom too I knew, and who was a very honeſt man, much to be depended on: Otts had alſo been on ſentry, and he and Spoon accidently encountered each other, returning to camp much exaſperated at the hardſhip of having been made to do double duty. To their aſtoniſhment, inſtead of finding their friends they came ſuddenly upon the Britiſh, who then occupied the very ground from which Moultrie had juſt retreated. Being ſeen by the enemy, Spoon and his comrade with difficulty effected their eſcape into the neighbouring ſwamp, where they concealed themſelves.

Spoon had been for some months very dropsical, and it was expected that it would in the end cause his death. They had not long hid themselves when Spoon was seized with an inclination to make water; he was afraid to rise up, lest he should be discovered by the enemy, who they believed was in search of them; he therefore unbuttoned as he lay, and, to use his own words, in a little time he raised a "small creek, for he pissed as broad as a sword."—The swelling of his belly instantaneously fell, he returned home, and was my neighbour in St. Bartholomews parish, for years after, enjoying as much health as most of us, until a pleurisy put an end to him about the year 1798. I had the account from Spoon's own mouth, and it was confirmed to me by his comrade Otts.

August 11th, 1805.

DEAR SIR,

I have thought the above case not uninteresting, I therefore communicate it to you; that it is founded in strict truth I am satisfied, as it was notorious to me, and most of my neighbours, that Spoon was at the above time far gone in a dropsy, and that in a very few days, when, after his separation from it by the above cause, he rejoined the army; he was as lank as a greyhound, and soon became a hearty man.

Yours,

PAUL HAMILTON.

DR. RAMSAY.

Case of Extra-uterine Gestation, by DR. G. CLARK—*Communicated to the Editor by* DR. DANCER.

Kingston, (Jamaica) August, 1805.

SIR,

THE following case of extra-uterine gestation, is so extraordinary as to seem incredible; were I not well acquainted with Dr. Clarke, the gentleman who communicated it to me, and had I not afterwards had the opportunity of con-

firming the facts stated, by an examination of the woman, previous to her recovery; I should hardly have ventured on sending it you for publication.

It will seem to confirm the remarks of Dr. Denman in his excellent work,* and to give occasion to many curious inquiries, in which I shall not anticipate others, who may be more consistent in pointing them out.

I am, Sir,

Yours, &c.

THOMAS DANCER.

DR. JOHN REDMAN COXE.

St. Thomas in the Vale.

DEAR SIR,

I HAVE lately witnessed one of the most extraordinary cases that I ever remember to have met with in the annals of midwifery.

On Sunday morning last, a stout-made young Eboe wench, (about 18 or 19) was taken in labour.—The pains, however, were so slight, that she did not call for assistance till the evening. The negro woman who acted as midwife, on examining her, found the vagina impervious, so as not to admit the point of the finger, on account of the pressure occasioned by a large tumor in the perinæum. The anus was considerably dilated, and there flowed from it a quantity of blood and mucus.

In this state she remained, the pains returning at intervals, till half past two o'clock the next day, when I first saw her: she was at this time free of labour pains, had a good pulse, and her strength was not much diminished: the tumor in the perinæum was now very large, and the anus much dilated. On introducing my finger, I plainly felt the hairy scalp denuded: upon inquiry, I was informed, that there had been in the night a dis-

* Introduction to Midwifery, Vol. II. page 425.

charge of water, ſuch as uſually happens on the breach of the membranes; but there was not the leaſt appearance of any diſcharge from the vagina. Having paſſed no urine ſince the commencement of her labour, ſhe was much diſtreſſed by retention; but I had no catheter with me, and if I had had, I am confident I could not have introduced it, the tumour had ſo completely ſhut up the os externum. Thus informed of the ſituation of the patient, I had no heſitation as to what was to be done: I ordered fomentations and frictions with warm oil; ſoon after which ſtrong pains came on. I then gradually dilated the ſphincter ani, ſo as that I got my whole hand into the rectum, and ſucceeding (though with ſome difficulty) in getting my finger into the child's mouth, I extracted the head per anum; ſome time after this, by a ſucceeding pain, the body with the ſecundines, were delivered without any aſſiſtance: there was ſcarcely any laceration of the ſphincter; the perinæum was not in the leaſt injured, and the quantity of blood loſt was not more than is uſual in natural labour.

The fœtus appeared to be of the ordinary ſize of a ſeven-months child, (which accorded with the girl's reckoning) and from appearances could not have been long dead; perhaps it died in the beginning of the labour. I ſhall omit ſaying any thing as to the medical treatment after delivery, but confine myſelf to what was particular in the caſe.

The next day ſhe was free of fever, and the anus was contracted to nearly its natural ſize; afterwards ſhe complained of great pain and ſoreneſs about the parts; ſhe had paſſed urine, but had had no ſtools: a clyſter was therefore adminiſtered, which operated, and ſhe continued to paſs what ſhe had paſſed before from the anus, a diſcharge reſembling that of the lochia. At this time a ſimilar diſcharge of bloody ſerum began to flow from the vagina, which, on examination, I found ſo far dilated as to admit of my finger: I could not however diſcover the ſtate of the os uteri; and it appeared to me, there had been *no dilatation of the vagina, nor any ſign of communication between that and the rectum.*

The former medical treatment was purſued, viz. fomentations, clyſters, bark, &c. and on Friday, (ſhe was taken in labour on Sunday,) when I viſited her with Dr. Hunter my partner, ſhe was ſtill free of fever: the bark having been neglected to be given, we afterwards found the anus and perinæum in a ſloughy mortified ſtate. But on ſtrict examination no communication could be found between the vagina and rectum.

On the ninth day from delivery, the external mortified parts put on a healing appearance. The perinæum had ſloughed, and the furcha was deſtroyed, but ſtill interiorly there was no communication between the rectum and vagina.*

The patient recovered, and there are lately ſome ſigns of her being again pregnant.

Yours, &c.

GEORGE CLARK.

DR. DANCER.

Caſes of Intermittent cured by Calomel. By DANIEL WILSON, M. D.

Richmond, (Virginia) Nov. 3d, 1805.

SIR,

I TAKE the liberty of ſtating to you in a curſory manner a few caſes in which mercury has appeared to be ſucceſsfully uſed in the cure of intermittent fevers.

In the autumn of 1803, I preſcribed for a lady who lived in the country. Her caſe was ſtated to me by her huſband, as a long-protracted intermittent of the quartan type. I directed a cathartic of jalap and calomel as introductory to the Peruvian bark. A few days afterwards I received a letter from the huſband expreſſing much uneaſineſs for his wife. He ſtated that her mouth was very ſore,† and that he was afraid I had made a miſtake, and had given mercury to his

* It was in this ſtage, that Dr. D. ſaw and examined the patient.

† The cathartic did not operate.

wife. I anſwered his letter, and preſcribed a ſaline cathartic, together with an aſtringent gargle: a few days afterwards I ſaw the gentleman who expreſſed much ſatisfaction at the recovery of his wife. He obſerved to me that as ſoon as her mouth became affected ſhe never had a return of the ague.

Every phyſician is ready to bear teſtimony to the efficacy of mercury in thoſe diſeaſes commonly called bilious, and as a variety of the ſame diſeaſe, I readily concluded that in this inſtance mercury had cured the intermittent.

Until laſt December a fair opportunity did not offer by which I might ſatisfy myſelf more fully: in that month a poor young man, a journeyman baker, called on me for advice; his caſe was alſo a long-protracted quartan. I preſcribed mercury for him in ſuch doſes as gently to touch his mouth, and had the ſatisfaction to aſcertain that as ſoon as his mouth became affected, his agues left him. He was extremely reduced by the diſeaſe, and had the appearance of a very great prediſpoſition to dropſy. His cure was confirmed by the uſe of the Peruvian bark.

Within theſe few days I am favoured with a ſimilar caſe from a practitioner in the country, which, like my firſt, was the reſult of accident. A child under two years of age laboured under an intermittent fever: a cathartic of which calomel compoſed a part was preſcribed, but not operating, a ſore mouth was induced, and the child has not had a return of the ague.

Theſe caſes ſtand too much alone to eſtabliſh a principle in medicine, but I am very fully perſuaded that they may be confirmed by further experience.

Should they be found worthy of a place in your Medical Muſeum, you are very much at liberty to inſert them.

Your moſt obedient humble ſervant.

DANIEL WILSON.

Dr. John Redman Coxe.

Obſervations tending to prove the contagious Nature of Yellow Fever.

By THOMAS DANCER, M. D.

Kingston, (Jamaica) June, 1805.

SIR,

I HAVE to thank you for the firſt number of your Medical Muſeum, to which I wiſh ſucceſs, and ſhould be glad of any opportunity of contributing thereto.

It is my misfortune to differ from the Medical gentlemen of the United States, on the ſubject of yellow fever. They contend, that it is wholly of local origin, and not propagated by contagion. The reaſons which induce me to entertain an oppoſite opinion, were tranſmitted to the Editors of the New-York Medical Repoſitory two years ago: not having received any numbers of the above-mentioned work, ſince that period, I cannot tell whether my paper was deemed worthy of inſertion, and I have not at preſent leiſure to detail at length the arguments and facts therein ſtated. I ſhall however relate one or two pointed hiſtories, which in my judgment put the matter out of doubt as *it reſpects the yellow fever of Jamaica.*

Hiſtory I.

In the month of September, 1803, a fever broke out amongſt the ſoldiers of the 60th regiment, at Up Park camp, (a moſt healthy ſituation, in the neighbourhood of Kingſton) which carried off 80 men.

That this fever (characteriſed by all the ſymptoms of yellow fever,) was contagious, appears from the following circumſtances.

1ſt. No local cauſe exiſted that could give riſe to the diſeaſe.

2d. It went progreſſively through the battalion; the perſons neareſt to thoſe who were ſick, being the firſt that were affected.

3d. The medical gentlemen who attended were all taken ill, one of whom died and the reſt recovered with difficulty.

4th. The ſerjeants and orderly men were all affected and ſeveral of them died.

5th. But what was moſt ſingular, every man employed in ſhaving the ſick fell a victim to the diſeaſe.

The above account is atteſted by Dr Brown, the ſurgeon of the regiment, and now ſurgeon to the Royal Artillery; the circumſtances are well known to all the officers and privates of that battalion.

Hiſtory II.

Extract of a Letter from Dr. Dick of St Thomas, in the Eaſt, to Dr. Dancer, Physician in Kingston, Jamaica.

DEAR SIR,

DURING the period of twelve years that I have practiſed in this neighbourhood, I have had abundant opportunities of ſeeing patients under yellow fever, and I have always been of opinion, that the diſeaſe was contagious; but as a difference of opinion exiſts among the faculty on this ſubject, I preſume, the following hiſtory, which I am about to relate, cannot fail of convincing *all ſuch as are open to conviction.*

In the harbour of Morant Bay, the yellow fever has lately prevailed in a very alarming degree. The ſhip in which it at firſt appeared, was the Hercules, Capt. Powel, of Briſtol; a veſſel that was kept remarkably clean and neat, and it was therefore concluded the diſeaſe could not have *originated* on board that ſhip. It was afterwards found that two of the crew (the firſt attacked) had been on board another ſhip, the Roſelle, lately arrived from Kingſton, where ſhe had loſt the greateſt part of her men by yellow fever. Obſerving this, I recommended to the maſters of the other veſſels to prevent their men having any communication with the infected ſhip Roſelle. This injunction was attended to by the *London* ſhips, but nothing could prevent the crews of thoſe belonging to Briſtol from viſiting their ſick

friends on board the *Hercules;* and the conſequence was, that many of them were attacked by the diſeaſe, and fell a ſacrifice to their imprudence.

There being at this time an impreſs of ſeamen, the crews of the merchantmen were obliged, for ſecurity, to abandon their ſhips; and thoſe recovering from yellow fever, aſſembling on ſhore with the reſt, communicated the diſeaſe to thoſe who by due precaution, had previouſly avoided it, and then the diſeaſe became *general.*

Capt. Domett, of the ſhip Sir Edward Hamilton, wiſhing to ſcreen his men from the impreſs, ſent ſome of them to an eſtate five miles diſtant from the harbour. Amongſt theſe, was one of the name of Frederick Bech, who was then recovering from yellow fever: from him Mr. M'Namara one of the perſons on the eſtate caught the infection, and died on the third day of his illneſs. Mr. Neſs, the manager of the property, and another gentleman, Mr. Slinny, both caught the ſame fever: the former died on the third day, but the latter fortunately recovered.

Yours, &c.

THOMAS DANCER.

DR. JOHN REDMAN COXE.

Diſſection of a Body that died of the Yellow Fever at Philadelphia, in the Autumn of 1805, *with practical Obſervations and Remarks. By* JAMES STUART, M. D.

THE utility and advantages of diſſections to the eſtabliſhment of rational indications of cure in diſeaſe, have been ſo generally and juſtly admitted, from the very earlieſt ages of medicine, that it would be, at leaſt, unneceſſary, if not intruſive, to inſiſt on them in the preſent. In it we have only to re-

gret, that indolence, or a want of ſufficient leiſure ſhould ſo much have retarded our inveſtigations, that a labour of upwards of two thouſand years in the ſtudy and practice of medicine, has left the ſeats of many of the moſt cruel and fatal maladies incident to humanity entirely unexplored. In no inſtance is our want of information in pathology more to be lamented, than in the diſeaſe which gave riſe to the diſſection before us. In confirmation of this important truth, the reader is referred to the erroneous opinions formerly received on the ſource of that *black matter* ſo frequently vomited up in the laſt ſtage of *yellow fever*. Before my obſervations on the ſubject *publiſhed in May* 1798, *this diſcharge was always ſuppoſed to originate in the liver*.* Nor was it ever before ſuſpected that the qualities of

* Vid. My inaugural Diſſertation on the Salutary Effects of Mercury in Malignant Fevers defended before the truſtees and medical faculty of the Univerſity of Pennſylvania, 22d of May 1798, from page 10, to page 16. To the reaſoning found there, had it not been foreign from my ſubject, two diſſections made by me in the year of 1797, might have been added. A part of one of theſe, as they have never been publiſhed, I ſhall tranſcribe from my note-book in this place, in the ſame language with the original.

P. M'G. puerulus quidam biennis, febre bilioſa maligna ad quartam diem laboravit, cum ore ejiciebatur evomitionis ſubnigræ illa species, quam in hoc morbo, *ſemper ſymptoma lethiferum obſervavi*. Coloris intenſitas, uſque ad diem ſextam obnubilavit, quando corpus frigeſcebat, multa caligine ſigna mortis denſabantur, et die decima menſis Septembris, annoque ſalutis humani milleſimo ſeptingenteſimo nonageſimo et ſeptimo, ad auras animam ſpiravit.

Parietibus abdominis reſectis, hepar magnitudinem prope duplam, et in omni parte, *ſubter coſtas immediate jacentibus his exceptis*, quæ tinctæ naturali, colorem exhibuit balauſtinum. Veſica fellea eminebat repleta cum multa tenuique aquoſa bile, quæ, propter coarctionem ducti choledochi communis, non in cavitatem inteſtini duodeni cogereter. In tunicis gaſtricis nempe externis, denſa eminenter tranſlucebat inflammatio. Hoc viſcere cultro ſubjecto, in penetrali ejus nil annotabatur præterea muci viſcidi parva copia, quæ, *picta multis ſtriis fluctuantibus materiei ſubnigræ ad viſum in paucis differebat ab illa in diebus morbi poſtremis vomitione ejecta*. Inflammatoriis variis lineis flexuoſis villoſa inquinabatur tunica, quæ cum interſtitiis minus morbidis irregularis reticulati operis pictionem dabant.

Eædem lineæ, illis muco adhærente, ſublividæ ad oculos videbantur; atſi eſent ſtudioſe ſpongia repurgatæ, multo luridiorem exhibebant colorem. Com-

the matter diſcharged, differ in different caſes according to the ſource from which they are derived—that they are *not always fatal*—or, laſtly, that the probable iſſue of the diſeaſe may be preſaged from a knowledge of its ſource. But on the contrary ſo ſtrongly was the appearance of any black matter from the mouth aſſociated with the death of the patient as a conſequence; that, at the ſight, as upon an attack of that plague of old, ſo elegantly deſcribed by the immortal Lucretius, he was immediately deſerted both by phyſician and nurſe,

——————muſſabat tacito medicina timore,
——————————ubi quiſque videbat,
Implicitum morbo, morti damnatus ut eſſet,
Deficiens animo mœſto cum corde jacebat
Funera reſpectans, animum ut mittebat ibidem,

and this perhaps when a more accurate knowledge of pathology might lead to a certain cure.

Such are the reflections which have induced me to take every opportunity to inſpect the bodies of thoſe who died with the late epidemic; and theſe, it is hoped, will be a ſufficient apology for the following communication.

On the 23d of September, 1805, I viſited Benjamin High, a child of three years old, who had been taken with the uſual

preſſum manu hoc opus retiforme, ſubnigro irrorabatur fluido, cujus conſiſtentia, propter copiæ exiguitatem, ad ſenſus non eminebat. Illo iterum deterſo, opus reticulatum aſſumpſit Mutinenſem colorem, qui nulli mutationi poſtea ſubjiciebatur, &c.*

On the oppoſite page of my note-book, as a note to this, the following quere is propoſed.

* His obſervationibus datis, nonne medicorum opinio, quæ urget materiem nigræ vomitionis *lethiferæ* ab hepate originem ducere, lucet erronea? Imo hæc omnia pono, et, ab iiſdem morbi veſtigiis lucidius patet, illa excretio evenit ex *arteriolis gaſtricis*, quæ in ſtatu ſanitatis ſolebant ſuccum gaſtricum mucumque ſecernere.

ſymptoms of the prevailing epidemic on the nineteenth. In the interim nothing unuſual had occurred. His complexion was now ſallow; his eyes ſunk; his ſkin cold and cadaverous; although apparently comatoſe, he kept his head conſtantly rolling from ſide to ſide, and his hands inceſſantly in motion.

His pulſe was ſcarcely perceptible; when diſturbed he uttered a ſpiteful and malicious ſcream. On preſſing the right hypochondrium he ſeemed ſenſible of much pain, which he never failed to evidence by a moſt piteous cry. About the tip and ſides, the tongue was white and moiſt, and on the middle and poſterior part, of a brown or mahogany colour. His bowels had been twice opened by ſmall doſes of caſtor oil, without relief. The ſtools procured by this were watery and dark-coloured. A mercurial purge, fomentations of brandy and ſalt, with epiſpaſtics to the extremities, and to the right hypochondrium were preſcribed. On the morning of the 24th he was warm; the bliſtering plaſters had raiſed; and his pulſe was much more perceptible. The coma was leſs profound, and he ſeemed occaſionally ſenſible of ſurrounding objects. He was ordered ſmall and frequent doſes of calomel, with a repetition of the fomentations. In the afternoon, he was not ſo well.—The medicines were continued as before. On the morning of the 25th, the ſkin was generally ſuffuſed with yellow; he had diſcharged ſeveral black watery ſtools; was leſs diſpoſed to ſleep, and upon the whole was much better, though it was very remarkable he ſtill continued to agitate his head and hands as before. The ſame treatment was continued, and porter with water directed for his drink. In the afternoon, there was a ſlight exacerbation of febrile ſymptoms.—The porter and water was diſcontinued. On the 26th he was much the ſame as on the morning of the preceding day. The porter and fomentations were reſumed; the medicines were continued, and he was allowed, now and then, an oyſter. In the afternoon he was better. On the 27th, he was rather better; though his ſtools were

ſtill dark-coloured and of a watery conſiſtence. Warm ſtimulating fomentations were now directed to be applied to the abdomen and to the bliſter on the right hypochondrium; and a doſe of ol. ricin. to be repeated until the ſtools ſhould change, or until it ſhould paſs through the inteſtines. On the morning of the 28th, at about three o'clock, he ſuddenly changed for the worſe. The bliſters were pale and diſcharged but little; the cutis vera, from being ſuffuſed in ſeveral ſpots with ſtagnated blood, aſſumed the appearance of gangrene. In the evening the ſymptoms were much the ſame, except that the heat of the ſkin was ſomewhat increaſed. On the 29th, he was much cooler and apparently inſenſible. His pulſe was altogether imperceptible; although he ſtill continued to ſwallow whatever was preſented to him. The fomentations were repeated, and at proper intervals, tincture of Peruvian bark with ſtrong draughts of brandy and water were preſcribed. In the evening his ſkin was warmer, although he was ſtill without any return of pulſe; the other ſymptoms remained the ſame. 30th, At about five o'clock this morning he with much tranquillity expired.

On cutting into the integuments of the abdomen, the cutis was unuſually rigid and dry, and the adeps tinged with a yellow colour. The cavity being laid open, the *omentum* was found wound up inwards into a roll; the *liver* was much enlarged and the colour changed for that of an intenſe orange. The *cyſtica fellea* was replete with a pale watery bile. The *ductus choledochus communis* was ſo much contracted as to refuſe a paſſage to the contents of the cyſt, even upon the moſt forcible preſſure. The *ſtomach* was contracted to nearly half its natural ſize: upon laying open this viſcus, the *longitudinal rugæ* of the villous coat were found increaſed in ſize, to that of the largeſt gooſe-quill. In the cavity nothing was found, except a few ounces of fluid, which moſt probably was the drink taken in a ſhort time before death. The *villous coat* was uncommonly deſtitute of mucus, and, (although the vomiting had generally been

very urgent, upon his being rouſed, a circumſtance which ſhould have been noticed in the hiſtory of the caſe,) without the leaſt veſtige of inflammation. In the *duodenum*, for two or three inches immediately round the opening of the ductus choledochus communis, a ſlight degree of inflammation was obſerved. The remaining tract of inteſtines was entirely free from this, and void of contents, except mucus and flatus, neither of which laſt were in any way abundant, while they were as free from any diſcolouration from bile, or fæces, as though they had been cleanly waſhed. In the lower portion of the *ilium*, beginning at about two-thirds of its length from the jejunum, were diſcovered *ſix introſuſceptions* of a lower portion of the inteſtines into that part immediately above. The upper one of theſe, as may be ſeen in the annexed engraving, was, in its contracted ſtate nearly five inches long; and if pulled out to its greateſt extent, would probably meaſure not leſs than twenty. The longeſt portion intervening between any two of theſe introſuſceptions, was about a foot and an half, and the ſhorteſt about ſix inches; while the length of the introſuſceptions decreaſed in a direct ratio with the decreaſe of diſtance to the cæcum, until the laſt, in its convoluted ſtate, did not exceed one inch and an half in length. The *colon* and *rectum* ſuffered the ſame changes with the ſtomach. The urinary bladder was ſo contracted as to aſſume nearly a ſolid form, and was perfectly empty. The *kidnies* and *renal glands* did, in no reſpect, deviate from thoſe of children of the ſame age dying of other diſeaſes. The meſentery was free from all appearance of diſeaſe, except that the glands were ſomewhat unuſually enlarged. The pancreas and ſpleen retained their natural ſtate. The time allowed for this diſſection did not admit of an examination of the viſcera of the thorax and cranium. Nor was this much to be regretted, as the ſymptoms during life did not warrant a ſuſpicion that ſuch an examination could have thrown the leaſt light on the cauſe or cure of the diſeaſe.

Whether this diſſection be conſidered in a practical point of view, or in reſpect to the uncommon appearances in the inteſtines, it will be found equally intereſting and important.

As the introſuſceptions were the firſt, as far as I know, that were noticed in malignant fever, it was natural enough to attribute them to ſome accidental circumſtance unconnected with the diſeaſe. This I acknowledge I was much inclined to do. But, as a few days afterwards I diſcovered three of theſe in another body which died with the ſame epidemic, and nearly under the ſame ſymptoms, and in which the other viſcera were in a ſtate ſimilar to thoſe of the firſt, I am ſatisfied the derangement under conſideration muſt have depended upon ſome cauſe intimately connected with the diſeaſe.

If it be conſidered that bile is a principal agent in digeſtion and in ſupporting the periſtaltic motion of the inteſtines—that a ſupply of this principal agent was always found entirely intercepted, in thoſe caſes in which introſuſceptions were obſerved, we ſhall find no difficulty in referring this cauſe to a deficiency of bile in the alimentary canal. The inteſtines, as other parts under ſimilar circumſtances, become debilitated by an abſtraction of their moſt congenial and natural ſtimulus; by this means they are rendered torpid or take on a ſpaſmodic ſtricture in ſome parts, while others retaining their uſual, or acquiring even a preternaturally vigorous action, crawl over and ingulph them into their cavities.

From this view of the ſubject, there is reaſon to conclude, that theſe introſuſceptions have not been peculiar to the epidemic of the preſent year; but that they are always to be ſuſpected, wherever a ſoreneſs of the right hypochondrium, a ſenſe of weight in the hypogaſtric region, a vomiting, or a diſcharge of blackiſh watery matter by ſtool occurs; and wherever the caſe is diſpoſed to be unuſually protracted without any evident cauſe.

Upon comparing the ſymptoms of this caſe with thoſe of many others, and upon recollecting that I have been frequently requeſted to examine with the hand, lumps in the abdomens of

my patients in the yellow fever, by them emphatically called "*knots*," I am convinced many ſimilar caſes had come under my care before. A very impreſſive one of this kind occurred laſt May in the perſon of Capt. J. C. This gentleman had been about three days ill with a malignant fever, when he complained much of the ſymptoms enumerated, and requeſted me to examine ſeveral lumps in the abdomen. They were irregular in form and ſeated in that region occupied by the ſmaller inteſtines. They were ſore to the touch, but not painful. By copious bleeding and purging, and the application of an epiſpaſtic to the abdomen, they diſappeared, and the caſe though very dangerous terminated favourably on the ſixth day.

Notwithſtanding ſo much has already been ſaid on this diſſection, it cannot be well diſmiſſed without ſome practical obſervations on the cure.

The circumſtance of the diſeaſe not having been diſturbed by art before the formation of the third ſtage, renders this caſe peculiarly favourable for an undertaking of this kind; but the communication before us being neceſſarily circumſcribed to a few pages only, I ſhall confine myſelf to ſome general obſervations on the cure, that may ſerve to prove the correctneſs of thoſe outlines drawn by an abler hand, and altogether avoid touching ſhades, except ſuch as may have been left out in former pictures, or ſuch as may ſeem to be derived from the peculiar light in which the ſubject is here viewed.

The ſymptoms of the diſeaſe and the appearances on diſſection warrant a concluſion, that the inflammation obſerved in the liver was the primary *topical* affection; that this was the effect of morbid excitement in the whole vaſcular ſyſtem; that the ſtricture on the ductus choledochus communis originated in a relative defect of local ſtimulus occaſioned by a vitiated, and finally a ſuppreſſed ſecretion of bile, which moſt probably occurred early in the caſe; that the contraction of the ſtomach and that of the colon, with the introſuſceptions of the ſmaller inteſtines, depended upon an abſtraction of ſtimulus in the abſence of the ſame fluid.

From this pathology, it will follow, the cure of the diſeaſe in ſuch caſes muſt turn upon three indications.

1. Upon the removal of inflammatory diatheſis.
2. Upon obviating the effects of this.
3. And laſt, upon reſtoring the ſtrength of the patient.

To anſwer the firſt of theſe, it muſt be acknowledged, no means more effectual can be employed than blood-letting, purging, and a ſtrict obſervance of the antiphlogiſtic regimen. What then muſt we think of that practice which proſcribed bleeding as a deleterious remedy? What ſhall we ſay of the feebleneſs of that practice which, with the greateſt caution, employs doſes of a few grains of magneſia, or of fifteen grains of cremor tartar with five grains of jalap, to anſwer the important end of this indication? What are we to think of the practice that employs the ſtimulating powers of epiſpaſtics to ſubdue the inflammatory ſtage of this diſeaſe? The firſt are occupied in removing obſtacles to the progreſs of fire, while the laſt is buſied in ſupplying more of that element to a building already in flames.

Beſides the general effects of purges in reducing inflammatory action, &c.—the intimate ſympathy exiſting between the inteſtines and the biliary ſyſtem, renders them peculiarly well adapted to remove inflammation of the liver. By their mechanical operation on the *primæ viæ*, by exciting ſenſation in theſe, and by accelerating the periſtaltic motion, they empty the gall cyſt, remove or prevent ſtrictures of the ductus choledochus communis and of the inteſtines, and obviate introſuſceptions of the latter.

If it be admitted that ſtrictures of the ductus choledochus, and ſtrictures and introſuſceptions of the inteſtines, are the conſequence of a ſudden abſtraction of ſtimulus, in the ſuppreſſed ſecretion and excretion of bile, it is probable purges may act by ſupplying, in their ſtimulating powers, a ſubſtitute for bile, and hence that theſe may be rendered more certain and effective by a combination of the INSPISSATED BILE of other animals.—I know this propoſal will meet its opponents, upon the principle

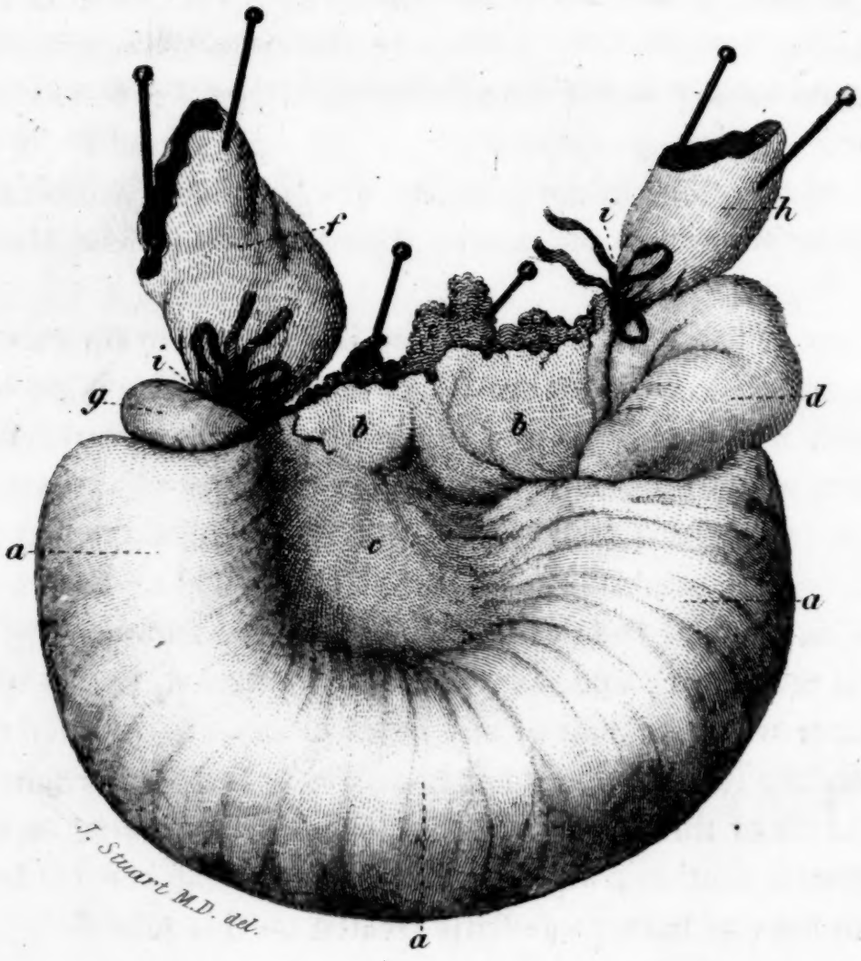
that bile is an offending fluid in fevers; and that novelty will not be a ſmall obſtacle to its being put into practice: but, if it be conſidered, that an increaſed ſecretion of this fluid is the conſequence, and not the cauſe of irregular and febrile action; and that fevers are more tractable in the caſes wherein it occurs, we ſhall rather be encouraged than deterred from taking advantage of this remedy.

Upon theſe principles, it is conceived, the purges employed in the inflammatory ſtage of malignant fever may receive a valuable addition in the inſpiſſated bile of other animals. This ſubſtance ſeems more particularly indicated wherever a ſenſe of weight and a ſoreneſs in the right hypochondrium, or hypogaſtric region occur; where white, or black watery ſtools are diſcharged; and in all caſes, where the diſeaſe is diſpoſed to be protracted to an unuſual period, without any evident cauſe.

It was ſaid the ſecond general indication, in this grade of fever, turned upon obviating the effects of inflammatory diatheſis.

Theſe are a great proſtration of ſtrength, or a ceſſation of action in that part of the arterial ſyſtem moſt remote from the heart, occurring about the third or fourth day of the diſeaſe; a conſequent congeſtion, inflammation, gangrene, paralyſis, or rupture in ſome of the viſcera; a ſuppreſſed ſecretion of bile, ſpaſmodic ſtrictures of the ductus choledochus communis, and ſpaſmodic ſtrictures and introſuſceptions of the alimentary canal.

This proſtration of action and retreat of fever to the internal parts, on which the other evils enumerated depend, are rather to be anticipated in the formation, than cured after they have taken place. This is to be attempted by the free and bold uſe of the remedies propoſed under the firſt indication of cure, in the beginning of the diſeaſe, and by the uſe of mercury ſo employed as to excite ptyaliſm as ſoon as circumſtances will admit. But when the inflammatory diatheſis has been ſufficiently reduced, or the patient ſhall be threatened with that alarming centripetal ſtate of fever moſt commonly occurring on the cloſe of the third



Engraved by Lawson for the Philad^a Medical Museum.

or fourth day, every means to excite action in the cutaneous veſſels, and to call off the fluids from the vital parts are to be employed. The moſt powerful of theſe are found in warm diluent drinks, fomentations of brandy and ſalt, warm or even hot bricks, ſinapiſms and bliſters to the extremities, and over ſuch parts as may ſeem to be affected with topical inflammation; ligatures on the extremities, tight enough to obſtruct the return of the blood in the veins, are alſo, as I have had occaſion to obſerve in another place, a moſt powerful and uſeful remedy in this ſtage of diſeaſe.*

By the action of theſe the blood is detained in the external veins, an accumulation in the larger internal arteries is prevented, and, without abſtracting ſtrength from the general ſyſtem, the force of the arterial ſyſtem is taken off from vital parts.

After ſaying this much on the remedies to fulfil the firſt two indications, it might be expected I ſhould add at leaſt a few words on thoſe of the third. But, as theſe are embraced by the general tonic plan, and, as it was before hinted, the limits of this paper will not admit of any detail of remedies, I ſhall only obſerve, the ſyſtem is here left in a ſtate ſo extremely excitable, that the uſe of ſtimulants and of tonics are to be entered on with the greateſt caution; and conclude by referring the reader to ſuch authors as have profeſſedly treated on this ſubject.

Explanation of the Plate.

a a a. The external receiving portion of the inteſtine ſuſpended by the meſentery in the poſition it occupied in the body.

b. b. Two meſenteric glands removed with the inteſtine.

c. A piece of the meſentery to which the inteſtine was ſuſpended.

d. The external end of that part of the inteſtine received, occupying the whole extent of the receiving portion, a a a.

* See the firſt volume of the Philadelphia Medical Muſeum.

e e. The received portion immediately at its reception into the portion receiving.

f. The upper end of the inteſtine where it was cut off.

g. A ſmall protuberance made by two turns of the ligature paſſed round the inteſtine.

h. The lower end of the inteſtine at the part where the ligature is paſſed.

i i. The ligatures paſſed round the inteſtines.

Caſe of Blindneſs induced by an Accident of an uncommon Kind—By the EDITOR.

JULY 27th, 1805. My eldeſt ſon, John Redman Coxe, aged about ſix and a half years, playing in the afternoon with a whip he had made of a long piece of the tinſel cord, which ſerves for children's hat-bands; had the misfortune to ſtrike himſelf with it in the right eye, and immediately complained of great pain. He would not, or could not open it that I might examine it; and as I conſidered the pain to be no more than what is uſually cauſed by any ſevere blow on this organ, I only deſired him to bathe it with cold water. After complaining nearly an hour he fell aſleep on the parlour floor, for an hour and an half. He awoke with a diminution of pain, but ſtill ſaid he could not open the eye: as, however, he examined with attention, by candle-light, a bat I caught in the houſe, and did not appear to be in much pain, I hoped a night's reſt would remove the complaint. He ſlept well and roſe with little pain, yet ſtill kept the eyelid cloſed: he now, however, was able to allow it to be examined. The inflammation was apparently ſmall, but on a cloſer view I perceived a portion of the tinſel cord adhering firmly by one extremity to the inſide of the

tranſparent cornea, and paſſing directly acroſs the anterior, through the pupil to the inner chamber of the eye. The wound of the cornea was very perceptible, but no veſtige of the tinſel was externally viſible. An obſcure milkineſs was already apparent on the cryſtalline or its capſule, and indicated the misfortune which was to be apprehended, eſpecially as ſo much time had now elapſed, owing to my ignorance of the injury ſuſtained; for, till this period, I had not any other fear than that a violent inflammation might be the conſequence of a blow inflicted by a whip on the orbit of the eye.

As no time was to be loſt, I immediately requeſted the attendance of Dr. Phyſick, whoſe conſtant and extraordinary kindneſs, I can never forget; and to whom I deſire, thus publickly to return my moſt ſincere thanks, for the great obligations I feel myſelf under, for his ſkill, and aſſiduous attention to my ſon. No doubt could be entertained as to the neceſſity of removing the extraneous body. The only queſtion was how this was to be beſt effected. It was propoſed to introduce a couching needle, and endeavour to extricate it from the cornea, when after its falling to the bottom of the anterior chamber, it was preſumed, an inciſion of the cornea would allow it to be extracted. The uncertainty of being able to extricate it by this meaſure, with the certain evacuation of the aqueous humour on withdrawing the needle, and the chance of injury to the iris, together with the difficulty, if not impoſſibility of inciſing the cornea, after the collapſe occaſioned by the loſs of the aqueous humour, prevented this plan being purſued. It was ultimately agreed to make a ſmall inciſion of the cornea, and to paſs up a ſmall pair of forceps to extricate the tinſel. Though an injury to the iris was anticipated by its edge, after the evacuation of the aqueous humour, yet this was a trifling conſideration to the chance of violent inflammation and ſuppuration of the eye by longer delay, and no plan appeared more likely to ſucceed. At half paſt one, or twenty hours from the ac-

cident, Dr. Phyſick performed the operation, the eye being fixed with a ſpeculum. After the inciſion of about the fourth of the cornea, the aqueous humour was largely evacuated; but the forceps, from the confinement they experienced, could not take hold of the tinſel, a circumſtance of great anxiety. A ſilver curette was therefore introduced, and at the ſecond attempt it was diſlodged, and brought down to the opening. After a ſhort pauſe with the lids cloſed, the tinſel eſcaped on the globe of the eye, and proved to be nearly one-fourth of an inch in length. The eye was now bound up, his hands ſecured; and, (having taken thirty drops of laudanum before the operation at two doſes,) ſoon after going to bed, he fell aſleep. It may be neceſſary to remark, that after the eſcape of the aqueous humour, he complained of great pain of the head, probably from the tinſel then coming more in contact with the iris or cryſtalline lens. This pain was not very permanent. He had little appetite to-day: at 4 o'clock when he awoke, he eat ſome melon, but, probably owing to the laudanum taken, ſoon vomited it up. He complained of but little pain, and ſoon fell aſleep again. He bore the whole operation aſtoniſhingly, and doubtleſs the byſtanders felt much more ſeverely than he did. The iris was ſlightly injured by the tinſel in coming away, but in all probability much leſs ſo than it would have been, by any other mode of proceeding.

He ſlept about five hours, and conſiderably alſo during the night.

At 4 A. M. of the 29th, as he was reſtleſs, and his ſkin was hot, I took away about 5 oz. of blood, after which he again ſlept. He paſſed much water, but had no ſtool this day: diet was bread and water: he has no pain of the head or eye, and his ſpirits are pretty high: he took in the afternoon 6 grains of calomel. He toſſed about in his ſleep conſiderably, more from the heat of the weather and his confinement, than from fever. Complains that the light is painful to him, in a dark room.

30. The ſame; no ſtool ſince the operation; reſtleſs; bled to 6 oz. and took 3 grains of reſin of jalap. Eye ſenſible to the impreſſion of light.

31. Slept conſiderably, no pain, bowels not moved: on examining the eye, it was found leſs inflamed than might have been expected. He ſees every object diſtinctly. He is extremely reſtleſs, owing to the activity of his diſpoſition, which renders it very difficult to manage him, the bandages on his arms repeatedly looſening. He ſlept from 3 till 11 P. M. when he had an opening. He was very reſtleſs during the night, and complained much of fiery ſparks before the eye.

Auguſt 1ſt, the eye was moderately inflamed; but a ſlight opacity of the cryſtalline is evident: in order to check his ſpirits which render him ſo unmanageable, it was concluded to give him one-eighth of a grain of emetic tartar, to nauſeate him; he took alſo more reſin of jalap. In the evening as the ſparks continued, he was bled to 4 oz.—an enema was adminiſtered, and a large bliſter applied to the back of the neck. He reſted tolerably and complained but little of the ſparks; has had one or two good evacuations.

2d. He was again bled this morning to 6 oz. and ſlept the greateſt part of the day. The blood has never appeared ſizy. In the afternoon 4 grains of reſin of jalap were given, which operated once. A piece of water melon which he eat ſickened him, and cauſed him to diſcharge the contents of his ſtomach. Slept well till 3 A. M. of the

3d. Eye looks favourable, and iris appears more regular. Opacity of cryſtalline continues, but the external inflammation is almoſt gone. He has cried much at different times, but it appears not to injure him, the inciſion having united, and the eye is again prominent from the renewal of the aqueous fluid. He took more of the reſin of jalap, which produced two or three evacuations.

4th. Appearances favourable. Eye looks well, and various objects are perceptible, as ſciſſars, money, &c. All yeſterday af-

ternoon and during the night he ſaw the appearance of hay and ſtraw; and the letter A quite red; and as he ſaid, as big as a bed-poſt; he has no pain, nor is any blood effuſed to account for the red appearance. Theſe objects he continued to ſee, as well as ſparks, for ſeveral days, but they gradually ſubſided.

5th. The eye appears quite clever, and all inflammation is gone, yet the milkineſs of the cryſtalline continues although he diſtinguiſhes objects completely. He has had two or three ſtools; reſtleſſneſs from confinement extreme.

7th. The opacity ſeems to have augmented, he is now obliged to look aſkance in order to diſtinguiſh objects. Another bliſter ordered to the neck, and five grains of calomel were given with a view to touch the ſalivary glands.

8th. 4 or 5 ſtools—eye the ſame—ordered tartar emetic every hour in nauſeating doſes.

9th. Could not induce him to take his medicines, and he has grown ſo ſuſpicious that it is impoſſible to cheat him; opacity augments, and viſion greatly impaired; 3 grains of calomel ordered, and a bliſter behind the right ear: loweſt diet, as toaſt and water, ruſk, and melon, and ſtrict confinement in a dark room continued; the bliſters to be kept open with cantharides.

10th. Three grains of calomel were given, and afterwards four grains of reſin of jalap.

12th. Mouth is ſore; ſpits conſiderably, but there is no alteration in the opacity: as there appeared little hopes of the diſperſion of the opacity by any means we could propoſe, it was concluded on the 13th, to heal up the bliſters and omit further attempts.

14th. Cannot diſtinguiſh any objects, and the eye apparently is inſenſible to the action of light. Further confinement was deemed unneceſſary, and he gradually reſumed his former habits.

In a very ſhort time, he appeared to ſuffer no inconvenience from the loſs of the ſight of this eye, and now to a ſtranger, (and even to his friends, at a little diſtance) no difference in

the appearance of his eye is perceptible. On examining the injured eye, the iris is perceived ſomewhat elongated, and the cryſtalline continues of its milky hue. The pupil by expoſure to the light, contracts readily.

One important deduction I would wiſh to draw from this caſe, is, that we ſhould invariably examine the eye in caſe of injury as ſpeedily as poſſible, as future miſchief may perhaps be obviated by early attention. I do not apprehend the opacity could have been obviated in the preſent inſtance, if even the operation had been inſtantaneous; as it is probable the tinſel had in the very infliction of the ſtroke touched the cryſtalline, and thus laid the foundation of the ſubſequent opacity.

Philadelphia, November 20th, 1805.

Obſervations on the Vaccine. By GEORGE FARQUHAR, M. D

Philadelphia, December 17th, 1805.

DEAR SIR,

DURING my viſit to Jamaica, in the month of April laſt, I was fortunate enough to produce the vaccine diſeaſe in ſeveral white children, although the virus uſed, had been kept for ſeveral months; ſome part of it having been ſent from the Jennerian ſociety in London, and the other, being part of what you had the goodneſs to favour me with in December laſt;* and from the above children, before my departure from the iſland, the diſeaſe was diffuſed among many hundred negroes. It gives me pleaſure to mention, that although vaccination has had its opponents in Jamaica, as well as in other countries; it

* This laſt infection on glaſs, &c. was, at the time given, ſeveral months old.—E.

has now almoſt become univerſal throughout the iſland. One very great cauſe of the injury the reputation of vaccination has in any part of the world ſuffered, is, that the diſeaſe being ſo mild as not to require medicine, the attendance of a practitioner is often diſpenſed with; and the operation entruſted to any individual unacquainted with the characteriſtic ſymptoms of kine-pox, and thereby a local affection is induced, not unfrequently miſtaken for the genuine conſtitutional diſeaſe; the evils accruing from this circumſtance are incalculable.

As the yaws like ſmall-pox, leave the conſtitution ever after inſuſceptible of a recurrence of the diſeaſe; I was very deſirous laſt ſummer, while in Jamaica, of aſcertaining how far the prophylactic virtues of kine-pock might extend to that loathſome diſeaſe; not however having leiſure for this, ſome of my medical friends, at my requeſt, have promiſed an inveſtigation of the ſubject; and when I receive the reſult, I ſhall feel pleaſure in communicating it to you.

With much reſpect,
I am, dear Sir,
Your obedient ſervant.
GEORGE FARQUHAR.

DR. JOHN REDMAN COXE.

Caſe of Superfœtation communicated by DR. FARQUHAR.

In the pariſh of Vere, in the iſland of Jamaica, in the month of April laſt, Mrs. B. a lady of great reſpectability, aged about twenty-five years, was delivered of her fifth child, a daughter; which died in about two weeks after its birth. Between three and four weeks after which, Mrs. B. having been ſufficiently recovered to attend to her domeſtic concerns; was again attacked with the pains of child-birth, and delivered of a very fine healthy boy, who is now alive.

MEDICAL AND PHILOSOPHICAL REGISTER.

FOREIGN AND DOMESTIC.

*On the Inexpediency of erecting Foundling Hoſpitals.**

"Down then with Foundling Hospitals, more noxious than peſtilence and famine."—*Kames.*

THE attention of the medical philoſopher may often be extended with advantage to ſubjects which ſeem to lie beyond his province. Thus the application of public charity is worthy of his moſt ſerious conſideration, and ſo far as it is intended to relieve phyſical wants, or to remove moral evils by phyſical means, his intimate knowledge of the nature and conſtitution of man eminently qualifies him to direct how it may be moſt beneficially exerciſed. In the diſtribution of private charity, the individual is influenced by motives of humanity, or ſome momentary impulſe, and in this propenſity he may ſafely be indulged; for although oſtentation, or the deſire of getting rid of clamorous importunities, and removing diſguſting impoſtors, may ſometimes induce us to throw away what would have afforded effectual relief to objects more deſerving of aſſiſtance, yet private charity will ſeldom be ſo conſiderable or promiſcuous as to become a public evil. Beſides, that attention and ſympathy which commonly accompany individual charity, more effect-

* Edinburgh Medical and Surgical Journal, No. III.

ually command the gratitude, and improve the morals of the relieved, than the moſt liberal allowance from a fund on which they have a real or imaginary claim. But public charity requires the moſt active ſuperintendence, and the moſt unceaſing vigilance, to prevent it from becoming a public burden, and a public nuiſance. The delight we experience in indulging the feelings of humanity, the approbation of our fellow-citizens, and the appearance of utility in public inſtitutions, often induce us to ſquander immenſe ſums, for which no adequate benefit reſults to the community. As the various and numerous diſtreſſes of the poor far exceed any funds which could be collected for their relief, whatever is not applied in the beſt poſſible manner is miſapplied, and therefore, in their diſtribution, partial humanity muſt be totally diſregarded, and public utility alone conſulted. The firſt object of charity, in all inſtances, is to perform the greateſt good with the leaſt means; whenever, therefore, a public inſtitution relieves any of the diſtreſſes of the poor more effectually and economically than if they were individually aſſiſted, and whenever the relief granted holds forth no temptation to increaſe the number of thoſe applying for it, or in the moſt diſtant way to encourage vice or idleneſs, then are public inſtitutions truly uſeful. Of this kind are almoſt all the inſtitutions for the relief of the diſeaſes and infirmities of the poor. No man will break a limb, becauſe there is an hoſpital in which it will be ſet, nor will any man become deranged, becauſe there exiſts a lunatic aſylum for his reception. On the contrary, public inſtitutions, whoſe objects might be more effectually and economically obtained by individual aſſiſtance, are at leaſt hurtful; and when they hold forth a temptation to increaſe the number of applicants, and to encourage vice and idleneſs, they become pernicious. On theſe principles, foundling hoſpitals have been already condemned by enlightened philoſophers. "Of all the miſchiefs," ſays Lord Kames, "which have been engendered by over-anxiety about the poor, none have proved more fatal than foundling hoſpitals."

As this opinion directly militates againſt the appropriation which has been made of a conſiderable fund towards the erection of a foundling hoſpital in Edinburgh,* a high degree of local and temporary intereſt is thus attached to an inquiry into the expediency of the meaſure. In a medical publication, its effects on population naturally form the principal object of inveſtigation, but theſe are ſo intimately connected with its influence on the morality and expenditure of the ſtate, that, in inveſtigating the former, frequent reference muſt be had to the latter.

The principal intention of foundling hoſpitals is to preſerve and educate, as uſeful citizens, children which might otherwiſe periſh from neglect or actual violence. Let us examine how far they attain this end. Children are moſt commonly deſerted ſoon after birth; for maternal affection is not yet confirmed by habit, and at that time only can the hopes of concealment act as a motive; when children, at that tender age, are entruſted to the care of the community, the difficulty of rearing them is immenſe. What a feeble, helpleſs being is man at his entrance into this world! Rudely expelled from the womb, in which he received exiſtence, into an ungenial element, his firſt ſenſation is pain, his firſt cry the cry of ſufferance: with a frame tender and delicate, and a mind ſcarcely yet awakened, he is totally incapable of contributing towards his ſupport. Dependent on others for his preſervation, the human infant has little chance of ſurviving, when its numerous wants are not unremittingly ſupplied by maternal affection. In proof of theſe aſſertions, the hiſtory of all foundling hoſpitals may be adduced.

The moſt ancient eſtabliſhment of this kind was inſtituted at Montpellier in 1181, a part of the hoſpital St. Eſprit being ap-

* We, &c. "do finally and unalterably reſolve to apply the free income ariſing from the reſidue of the ſaid eſtate, for the pious and charitable purpoſes of preventing child-murder, and for an hoſpital within the city of Edinburgh, for receiving, ſecretly, infant children, and bringing them up to be uſeful members of ſociety; and by receiving, privately, women big with child, and aſſiſting them in their delivery, ſo as to conceal their ſhame, and taking care of their children as foundlings."—Deed of Deſtination of the Funds of Mr. John Watſon, W. S. 13th Auguſt, 1764.

pointed for the reception of deſtitute children. A ſimilar inſtitution was founded at Lyons in 1533. At that time it was the practice throughout Chriſtendom that an expoſed child remained the ſlave and perſonal property of the perſon who took it up and reared it. In the 17th century, the number of deſerted infants increaſed conſiderably; and in Paris they were found in the ſtreets helpleſs, and left to the mercy of thoſe who choſe to lift them. Their miſerable fate, about 1638, excited the compaſſion of a rich widow, who cauſed them to be brought to her, and reared them in her houſe. For a time, this, like other undertakings of the ſame kind, was attended with ſucceſs; but the moſt ſhocking abuſes ſoon crept in. Her ſervants diſpoſed of theſe children at a fixed price. Many of them were ſold to beggars, who, by diſlocating their joints, and otherwiſe maiming them, endeavoured to increaſe the profits of their ſcandalous trade. In 1640, Louis XIII. to correct theſe and other flagrant abuſes, founded the foundling hoſpital at Paris, the moſt dreadful ſcene of butchery, ſays Girtanner, the world ever ſaw. Liancourt, in his report to the National Aſſembly, aſſerts, that of the children admitted, two-thirds died during the firſt month, and of theſe, three-fifths before they were given to nurſe. Of 101,000 children admitted in the preceding 16 years, in 1790 only 15,000 remained. Before the 2d of George III. the mortality in the London workhouſes was equally great: and Mr. Hanway mentions inſtances of every child received under a twelvemonth dying within the year. In 1791, Sir John Blaquiere ſtated to the Houſe of Commons of Ireland, that of 19,420 infants admitted into the foundling hoſpital of Dublin, during the laſt ten years, 17,440 were dead or unaccounted for; and that of 2180 admitted during 1790, only 187 were then alive. In 1797, he got a committee of the ſame houſe appointed to inquire into the ſtate and management of that inſtitution. They gave in their report on the 8th of May, 1797; by which it appeared that, within the quarter ending the 25th March laſt, 540 children were received into the hoſpi-

tal, of whom, in the ſame ſpace of time, 450 died: that, in the laſt quarter, the official report of the hoſpital ſtated the deaths at three; while the actual number was found to be 203: that from the 25th March to 13th April, nineteen days, 116 infants were admitted; of which number there died 112. Within the laſt ſix years there were admitted 12,786; died in that time 12,651; ſo that, in ſix years, only 135 children were ſaved to the public and to the world. In the Charité of Berlin, where ſome enjoyed the advantage of being born in the houſe, and of being ſuckled by their mothers ſix weeks, ſcarcely a fourth part ſurvived one month. Every child born in the Hotel Dieu of Paris was ſeized with a kind of malignant aphtha, called *le muguet*, and not one ſurvived who remained in the houſe. At Grenoble, of every 100 received, 25 die during the firſt year; at Lyons, 36; at La Rochelle, 50; at Munich, 57; and at Montpellier, even 60. At Caſſel, only 10 out of 741 lived 14 years. In Rouen, one in 27 reached manhood, but half of theſe in ſo miſerable a ſtate, that of 108 only two could be ſaid to be added to the uſeful population. In Vienna, notwithſtanding the princely income of the hoſpital, ſcarcely one in 19 is preſerved. In Peterſburgh, under the moſt admirable management and moſt vigilant inſpection of the Empreſs Dowager, 1200 die annually out of 3650 received. In Moſcow, with every poſſible advantage, out of 37,607 admitted in the courſe of 20 years, only 1020 were ſent out.

In ſome of theſe hoſpitals it is attempted to rear the children in the hoſpital itſelf; in others they are given out to nurſe in the country. Experience has decided in favour of the latter plan: It is leſs expenſive to the ſtate, the mortality is leſs, the children are more likely to become efficient citizens, and ſoon become uſeful to the people to whoſe care they are intruſted. It has, however, been objected, that it is almoſt impoſſible to ſuperintend the treatment of the children, when diſperſed ſo widely; that there is great danger of ſpreading the venereal diſeaſe in the country, by giving out ſyphilitic children to nurſe; and that it

will be impoſſible to find nurſes ſufficient, where the foundlings are numerous. Theſe objections, however, are not ſolid; for it will be more eaſy to find a ſufficient number of nurſes who will undertake the rearing of a child in their own houſes, than who will immure themſelves in an hoſpital; and if, to ſave the number and expenſe of nurſes, you commit to the care of each, in an hoſpital, ſix, five, or even four children, ſome of whom are generally diſeaſed, you condemn all to a ſlow and cruel death. The ſuperintendence of their treatment is of little conſequence; for it will be inſufficient to prevent it, if the nurſes feel not ſome affection for the child, and where they do, it is unneceſſary. The propagation of the venereal diſeaſe is the moſt important objection, and is only to be obviated by careful examination and due precautions, until the health of the child be aſcertained. Though attended with theſe and other inconveniences, this method of aſſiſting theſe helpleſs beings is to be preferred; and accordingly we find it ſanctioned by the Britiſh Parliament, which, in 1761, paſſed an act for obliging all pariſhes within the bills of mortality to ſend all children under ſix years of age, within a fortnight after they were born in or received into the workhouſe, to a diſtance not leſs than ſix miles from London, to be nurſed until they are ſix years of age. Dr. Price allows that this act prevented many deaths, and Mr. Howlett reckons, that a diminution of 2100 burials a year has been occaſioned by it. Indeed, in nurſing hoſpitals, the mortality is dreadful, the ſufferings of the infants extreme.

The cauſes of mortality, almoſt neceſſarily connected with foundling hoſpitals, are, inſufficient and unhealthy nouriſhment, want of cleanlineſs, cruelty and inattention of the nurſes, confinement, impure air, and want of exerciſe. But theſe cauſes, ſay the advocates for ſuch hoſpitals, may be all removed, and the mortality of foundlings reduced as low as that of infants in general. This, however, is merely the ſpeculation of ſome enthuſiaſtic philanthropiſts, and never can be realized, unleſs a nurſe can be procured for every child, and ſome means be found of

imparting to her the feelings of a mother. The difficulty of procuring nurſes for the hoſpitals has been always ſeverely felt; three, four, five, or even ſix children, are often given to one woman to ſuckle; the whole are conſequently ſtarved and ſhrivelled; and, ſhould one of them be diſeaſed, the whole are ſoon infected. At Marſeilles, it is the cuſtom to keep thoſe girls, who come to the hoſpital to be delivered, two years as nurſes. Several children are allotted to each of them, but, as long as their own children ſurvive, it is eaſy to foreſee what muſt become of the others. Beſides, the dread of ſuch a taſk frightens pregnant girls from entering the hoſpital; and, to this day, the inſtitution has completely failed in its principal object. In England, multitudes of children are brought up on the ſpoon, but all experiments of that nature in public hoſpitals have been unſucceſsful.

"Who can learn theſe facts," ſays Oſiander, "and not be wounded to the ſoul? who think of a foundling hoſpital without horror? It ſeems to be the fate of moſt of theſe unhappy foundlings, that while humanity endeavours to reſcue them from a violent death, it only collects them to protract their miſeries at an enormous expenſe. If we ſearch the records of foundling hoſpitals, we can hardly ſuppreſs the thought that the curſe of the Almighty reſts upon their walls, and that they are the abode of the deſtroying angel.

Children murdered here at the public expenſe,

was inſcribed by a ſatyriſt over the gate of ſuch an hoſpital. Alas! it is almoſt true. What a preventive of child-murder, to ſnatch an infant from the knife, and kill it with ſlow poiſon; for what elſe is the milk of theſe nurſes, and the peſtilential vapour of theſe abodes!"

What then are we to think of the influence of foundling hoſpitals on population? Are we to aſcribe to them the preſervation of the few who ſurvive, or are we to accuſe them of the

deſtruction of the multitudes who periſh? Are we to accede to the eulogium pronounced on that of Moſcow by Mr. Tooke, "That of all the children hitherto brought up in it, not the hundredth part would have been alive but for that inſtitution; and that conſequently, even in times of the greateſt mortality, it preſerves to the ſtate a very conſiderable number of young citizens;" or are we to acknowledge the juſtneſs of the oppoſite opinion of Mr. Malthus, "that if the children received into theſe hoſpitals had been left to the management of their parents, taking the chance of all the difficulties in which they might be involved, a much greater proportion of them would have reached the age of manhood, and have become uſeful members of the ſtate."

The determination of theſe queſtions reſts on this ſingle circumſtance, Whether or not theſe children would have been deſerted, had no ſuch hoſpitals exiſted? Wherever it is conſidered as a crime, and conſequently as a diſgrace, in a parent to deſert her offspring, it will never be done unleſs to avoid greater evils; to eſcape the infamy attached to illegitimate pregnancy, or in conſequence of abſolute want of the neceſſaries of life. In the latter caſe, the crime may be prevented by cautiouſly extending relief, as in other caſes of poverty; but, in the former, the attention of the Legiſlature muſt be directed to the root of the evil, to correct the habits of licentiouſneſs from which it proceeds. Penal laws againſt illegitimate pregnancy will naturally increaſe the deſire of concealment, and the deſire of concealment may lead to the deſertion, or even murder, of the infant; but by operating as a powerful reſtraint on licentiouſneſs, they render the original crime leſs frequent, and probably rather tend to diminiſh than to increaſe its eventual effects. All children deſerted in defiance of ſuch laws, or who become deſtitute by the death or total incapacity of their parents, have a right to the protection of the public; and as many of them as are thereby preſerved, conſtitute an actual addition to the population of the ſtate. But inſtitutions for maintaining them under theſe cir-

cumſtances have no direct tendency to prevent child-murder, and ſhould not be confounded with foundling hoſpitals, properly ſo called, which authorize and facilitate the deſertion of children, with the intention of preventing child-murder. Now, what are the motives which lead to this unnatural crime? Are they not the deſire of concealing illegitimate pregnancy, or of eſcaping the labour of rearing the infant? So far as the latter motive is concerned, foundling hoſpitals operate as a direct tax on induſtry and virtue, and as a direct encouragement to idleneſs and vice; but if child-murder proceeded only from the former motive, foundling hoſpitals would have little effect in preventing it. For illegitimate pregnancy muſt either be infamous or not; in the one caſe, the ſame endeavours to conceal it would be uſed as if no hoſpital exiſted, and, in the other, there would be no deſire of concealment, conſequently no child-murder, from that motive.

But, for the ſake of proſecuting our inquiries, let us admit that foundling hoſpitals are as complete a preventive of child-murder as their advocates ſuppoſe; it is evident, that ſo long as illegitimate pregnancy is conſidered as diſgraceful, ſo long as the deſertion of children is conſidered as infamous, they will have no effect, unleſs the admiſſion into them be ſecret, indiſcriminate, and unlimited. Suppoſe it limited, the hoſpital full, and the baſket removed, what will be the conſequence? The deſertion of children having, till that moment, been authorized, they will be brought as before, depoſited on the ſtreet inſtead of the baſket, and the hoſpital muſt admit them, if they be diſcovered before they have died of cold and hunger. If the admiſſion be not indiſcriminate, the concealment cannot be perfect; and to what claſs of women ſhall its benefits be confined? To the worthleſs? Certainly not. To the unfortunate victims of ſeduction? If it could prevent child-murder, yes. In London, in order to the reception of the child, the previous good character, the preſent neceſſity of the mother, and the deſertion of the father, muſt be inquired into, and whether it will be attend-

ed with the conſequence of her being replaced in a courſe of virtue, and in a way of obtaining an honeſt livelihood.* Such reſtrictions are laudable, but they completely exclude thoſe moſt likely to maintain their reputation at the expenſe of ſo enormous a crime.

Wherever the reception is indiſcriminate, their effects are pernicious to the morals and happineſs of the people, they oppreſs the induſtrious by their expenſe, and they diminiſh population. The evils they neceſſarily produce are infinitely worſe than thoſe which they are intended to obviate. The dread of illegitimate pregnancy, and its conſequences, in the preſent ſtate of ſociety, is one of the moſt powerful ſafeguards of female chaſtity. Foundling hoſpitals, by removing in a great meaſure the fear of theſe, directly encourage licentiouſneſs, and when pregnancy is the conſequence, the infant is almoſt of courſe ſent to the hoſpital, and the mother deprived of the beſt means of atoning for her imprudence, and ſhowing the ſincerity of her repentance; means which ſeldom fail of reſtoring her reputation, and of enſuring to her, in her old age, the gratitude and protection of the child, whoſe preſervation ſhe accompliſhed, even at the riſk of perpetuating her ſhame.

But the effects of indiſcriminate admiſſion on the morals of the married poor are, perhaps, ſtill more to be dreaded. When we conſider the dangers to which the birth of a child expoſes the mother, the pains it inflicts, the exertions its maintenance requires from her yet enfeebled frame, the anxiety of mind, numerous inconveniences, deprivations of enjoyment, and augmentation of labour, which, among the lower orders of ſociety, are neceſſarily connected with its continuance in life, we muſt immediately be aware of the danger of diminiſhing the neceſſity of ſubmitting to theſe temporary inconveniences and increaſe of labour. Sir F. Eden, who has inveſtigated the ſitua-

* Account of the Foundling Hoſpital, page 62.

tion of the poor with particular attention, obſerves, that "the terror, which poor-houſes and work-houſes create, operates more in preventing grown people from entering them themſelves, than from conſigning the younger part of their family thither. It is perhaps not an unnatural courſe for a mother to abandon her child to the pariſh officers, who, ſhe is aſſured, will provide for it, for ſome years at leaſt, better than ſhe poſſibly could; more particularly when that child is the fruit of an illicit amour, and when, by leaving it at the workhouſe, ſhe can often ſcreen her character from detection. Conſidered in this point of view," he concludes, "the poor laws may be ſaid to offer an encouragement to debauchery."

Foundling hoſpitals, in this way, tend to looſen the ties between parent and child, the chief ſource of happineſs and virtue among the poor, and by holding forth temptations to the idle and indolent, too powerful for their reſiſtance, ſeduce many of them to deprive themſelves for ever of the greateſt conſolations of their lives, and of the ſupport of their old age and infirmities; the community thus drawing on itſelf the ſupport of the parents as well as of the children. "At every occaſional pinch for food, away goes a child to the hoſpital, and parental affection among the lower ſort turns ſo languid, that many who are in no pinch relieve themſelves of trouble by the ſame means."—And many a one, whoſe laſt moments might have been honoured by the tears of a virtuous family, is left to periſh unheeded in a work-houſe cell. "An occaſional child-murder, from falſe ſhame, is ſaved at a very high price, if it can only be done by the ſacrifice of ſome of the beſt and moſt uſeful feelings of the human heart, in a great part of the nation."

But theſe arguments, it may be ſaid, are merely the opinions of ſpeculative philoſophers: let us then bring them to the teſt of experience. In Peterſburgh, the annual births are about 17,550, of whom 3650 go to the hoſpital. In the diſtrict of Moſcow, the total births may be about 49,629, and in 20 years from the

inſtitution of the hoſpital, 37,607 had been admitted into it. In Lyons, in the year 1772—5320 children were born, of whom 977 were ſent to the foundling hoſpital. In the ſame year, the births at Paris amounted to 18,713, of whom 7676 were abandoned to the hoſpital; and of theſe, Buffon clearly proves that more than one half were legitimate children. It is alſo to be remarked, that there is a conſtant increaſe of the proportion of children deſerted. In Paris, the number of foundlings in 1670, 1680, 1700, 1740, 1749, 50, 51, 52, 53, 54, 55, 64, 65, 1772, and 1776, was 312, 890, 1740, 3130, 3775, 3785, 3783, 4127, 4329, 4231, 4273, 5560, 5495, 7676, and 6419, reſpectively. In London, in conſequence of the indiſcriminate admiſſion of children not exceeding two months being ſanctioned, "on the 2d of June, 1756, the firſt day of general reception, 117 children were received. From that time to the 31ſt December, 1757, 5510 children were admitted into the hoſpital;" and the admiſſion would probably, according to Sir F. Eden, have ſoon conſiſted of half the children born within 100 miles of the metropolis, but for the act of 1760.

Theſe facts indiſputably prove, that foundling hoſpitals increaſe the number of deſerted children; and as the mortality among foundlings is greater than among other children, we cannot refuſe our aſſent to the poſition of Mr. Malthus, that "if a perſon wiſhed to check population, and were not ſolicitous about the means, he could not propoſe a more effectual meaſure than the eſtabliſhment of a ſufficient number of foundling hoſpitals, unlimited in their reception of children."* Of thoſe who

* It muſt, however, be remarked, that foundling hoſpitals only diminiſh the actual population *directly*, by increaſing the comparative mortality of the children who are born; *indirectly*, they probably tend to augment the actual population by removing one of its greateſt checks, the care of providing for our offspring. But this view of the ſubject is the moſt fatal of any to the opinions of thoſe who think foundling hoſpitals deſerving of ſupport, as a means of preventing child-murder; for, in this way, they operate upon the ſame principle as the permiſſion of child-murder, from which it only differs in the enormous expenſe, and protracted cruelty with which they are attended.

ſurvive the hardſhips to which they are expoſed in ſuch places, the greater part are incapable, from bodily infirmity, to ſupport themſelves; and, with regard to their morals, Arthur Young has obſerved, that "foundling hoſpitals encourage that vicious ſpecies of procreation which does not deſerve the name of population; that the encouragement afforded by foundling hoſpitals is an encouragement of vice and inhumanity, and a public premium given to the baniſhment of the beſt feelings of humanity."

Another ſerious evil to be adverted to is, that, after they have been found by experience to be injurious, it is extremely difficult to put a ſtop to the evils they have introduced. The habit of deſerting children, having been once allowed, is ſlowly renounced by thoſe whoſe morals it corrupted, and whoſe induſtry it has ſuppreſſed. On the 9th of February, 1760, a committee of the Houſe of Commons, appointed to inquire into the effect of the indiſcriminate admiſſion of foundlings,

"Reſolved, That it is the opinion of this committee, that the general admiſſion of all children indiſcriminately, under a certain age, into the hoſpital for the maintenance and education of expoſed and deſerted young children, to be maintained there at the public expenſe, has been attended with many evil conſequences, and ought to be prevented.

"Reſolved, That it is the opinion of this committee, that no children ſhould be received into the hoſpital for the maintenance and education of deſerted young children after 25th March next, to be maintained there at the public expenſe."

There were at this time above 6000 children on the eſtabliſhment, almoſt all of them under five years of age; and, notwithſtanding the ſtrong reſolutions of the Commons, "ſix years paſſed before the number was reduced ſo low as 4300; and it was not till after the year 1769, that, by apprenticing all who could be placed out, they were reduced below 1000.*"

* Account of the Foundling Hoſpital, p. 33.

If the facts and arguments already adduced be at all concluſive with regard to the injurious effects of foundling hoſpitals on the population and the morals of the people, it may appear ſuperfluous to have recourſe to any financial argument; but probably few of the advocates for foundling hoſpitals are at all aware of their enormous expenditure, or how many extenſive and unequivocally uſeful charities it would be ſufficient to ſupport.

The foundling hoſpital at London, from its commencement to December, 1757, placed out only 105 perſons to do for themſelves, in return for an expenſe of 166,000*l.* being 1571*l.* each perſon! In 1760 it required an income of above 45,000*l.* for its ſupport; and its total expenſe for the ten years preceding 1770 could not be leſs than 525,000*l.* of which 495,000*l.* were granted by Parliament. In 1753 its income was only 1050*l.* and its expenſes 5000*l.* Beſides a tax of 1s. 4d. a pound on the rent of houſes in Dublin, the Iriſh Parliament has at different times granted 158,696*l.* towards the payment of the debts of the foundling hoſpital in Dublin. From a foundling hoſpital in a reſpectable German principality, after twenty years perſeverance, only one foundling reached the years of manhood, at an expenſe to the ſtate of 20,000 dollars; a greater ſum, ſays Girtanner, than would have been ſufficient for the education of its hereditary prince. The current expenſes of the Peterſburgh hoſpital are, according to Malthus, 150,000*l.* annually.

From this inquiry it evidently appears, that foundling hoſpitals are hurtful in every point of view, whether we conſider their effects on the morals, population, or expenditure of the ſtate; and that, whatever objections may exiſt to the abolition of thoſe already eſtabliſhed, the Legiſlature, conſiſtently with their reſolutions of 1760, ought not to permit oſtentatious or miſtaken charity to introduce into any part of theſe kingdoms an evil of ſuch magnitude.

An Account of the Diſcovery of the Compoſition of Muriatic Acid. By PROFESSOR PACCHIONI, *of Piſa. In a letter from* FABBRONI *of Florence.*

"A BRILLIANT diſcovery has been made by one of my friends. I have encloſed an account of it, which you will tranſmit to my reſpectable and dear friend Kirwan, after having communicated it to the philoſophers of your country through the medium of your Journal." We therefore gladly take this means, though ſomewhat irregular, of complying with his requeſt, and of giving to our readers the earlieſt poſſible notice of the diſcovery alluded to, by tranſlating the pamphlet in which it is announced.

Lettera del Dottor FRANCESCO PACCHIONI, *Profeſſore di Fiſica nell' Univerſita di Piſa, al chiariſſimo Sig. Auditore* LORENZO PIGNOTTI, *Conſultore et Iſtoriografo Regio.*

"To you, my much reſpected friend, both on account of the ſpontaneous impulſe of innate kindneſs with which you deigned to take ſo much care of my talents, ſuch as they are, as to receive me among the number of your pupils, and on account of your having paved the way for my obtaining that very chair which was filled by you for many years with ſo much applauſe and honour to our country, rather than to any other perſon, ſhall I give an account of a diſcovery which I have made and ſatisfactorily verified. But theſe are not the only reaſons by which my conduct is influenced. I wiſh, at the ſame time, to ſhow my gratitude towards you, and to give you a proof that I am endeavouring to render myſelf more worthy of your eſteem and friendſhip.

"It is perfectly known to you that, ſince laſt year, on account of the premiums propoſed by that excellent general and philoſopher Bonaparte, Emperor of the French, for the advancement of that new and fertile branch of experimental philoſophy diſ-

covered by the celebrated Profeſſor of Bologna, Galvani, and afterwards wonderfully extended by the ſublime genius of Volta, I have contrived a great number of experiments, which I have performed with much care, and almoſt completed. Theſe experiments have revealed to me many facts, which I am collecting for a memoir to be preſented to the *Societa Italiana;* and have led me to a knowledge of the conſtituent elements of an acid which has hitherto proved refractory to all the efforts of chemiſtry. I ſpeak of the muriatic acid, hitherto tortured in vain* with the electric ſpark, caloric, and all the play of affinity. You are perfectly acquainted with the different and diſcordant opinions of the moſt recent and approved writers concerning the nature of this acid; ſome of them conſidering it as a ſimple combuſtible body, others as formed of an unknown baſe combined with oxygen, and, laſtly, others as a ſimple ſubſtance naturally acid. But theſe opinions have not contributed to the advancement of ſcience, and are juſtly eſteemed as mere hypotheſes deſtitute of proof.

Having, however, neglected theſe hypotheſes, and conſidered the means by which the diſcovery of the nature of this acid has been hitherto attempted, it appeared to me that one had not yet been tried, viz. the continued action of the pile of the celebrated Volta, and I ſuſpected that it might aſſiſt in leading me to diſcoveries which had hitherto eſcaped the reſearch of experimental philoſophers. As far as I can judge, my endeavours have been crowned with ſucceſs, and have furniſhed me with ſatisfactory evidence of the nature of the conſtituent principles of muriatic acid.

The ſimplicity of the apparatus, and of the means adopted to attain my views, the care with which I endeavoured to avoid

* Prof. Pacchioni could not poſſibly know that his diſcoveries had been in ſome meaſure anticipated by Mr. Peel at Cambridge.

every ſource of error, have, I hope, ſufficiently ſecured me againſt thoſe illuſions which frequently deceive young men ardent in the purſuit of ſcience, and even thoſe practiſed in the art of extorting from nature her ſecrets. Want of time prevents me from relating the ſeries of experiments by which I arrived at the diſcovery I have mentioned; but you may ſee it by peruſing the manuſcript of my memoir, which will be immediately publiſhed, to ſubmit my reſearches and their reſults to the judgment of the learned. For the preſent, I ſhall ſelect from the experiments and facts therein deſcribed thoſe which are deciſive, and which eſtabliſh, in an evident manner, the following truths:

I. *Muriatic acid is an oxide of hydrogen*, and conſequently compoſed of hydrogen and oxygen.

II. *In the oxygenated muriatic acid, and therefore*, a fortiori, *in muriatic acid, there is a much leſs proportion of oxygen than in water.*

III. *Hydrogen is ſuſceptible of very many and different degrees of oxidation*, contrary to what is univerſally believed by pneumatic chemiſts, who aſſert that hydrogen is ſuſceptible only of one invariable degree of oxidation, that in which it forms water.

Having at firſt examined the phenomenon of the decompoſition of water by the Galvanic pile, and having, by accurate experiments, aſcertained the true theory, I readily diſcovered a very ſimple and exact apparatus, in which I could diſtinctly perceive the changes which happen to water, which, from the continued action of the Galvanic pile, is continually loſing its oxygen at the ſurface of a wire of very pure gold immerſed in it.

I therefore proceeded to examine theſe gradual changes of water thus loſing its oxygen, and I at laſt obſerved a very ſingular fact, which unequivocally indicated the formation of an acid. In other antecedent experiments, I had examined the nature of the air obtained before arriving at this remarkable point, and I always found, by means of the eudiometer of Giobert, that it

was very pure oxygen,* as the reſiduum ſcarcely amounted to one ſixtieth.

Having thus examined the nature of the air formed in various experiments from the firſt moment of decompoſition, until there were evident indications of the formation of an acid, I began to endeavour to determine, in a more poſitive manner, the exiſtence and nature of this acid.

When the water, or to ſpeak more accurately, the reſidual fluid, occupied about half the capacity of the receiver, which at firſt contained the water, this reſidual fluid preſented the following characters.

Its *colour* was an orange yellow, more or leſs deep, according as the bulk of the reſidual liquor was greater or leſs, and it reſembled in appearance a true ſolution of gold.

From the inferior orifice of the veſſel, which was cloſed with a piece of taffety, and then with double bladder, there eſcaped a *ſmell* which was eaſily recogniſed to be that of oxygenated muriatic acid.

The gold wire had in part loſt its metallic luſtre, and its ſurface appeared as if corroded by a ſolvent.

The bit of taffety which had been in contact with the coloured fluid, in conſequence of its action, was eaſily torn, as is uſual with ſimilar bodies when half-burnt (ſemicombuſto.)

Around the edges of the veſſel, on the bladder, there was formed a deep purple ring, which ſurrounded a circular ſpace rendered entirely colourleſs, or white.

A drop of this fluid tinged the ſkin of the hand, after ſome hours, with a beautiful roſe colour.

Having obtained, in various ſucceſſive experiments, the ſame liquid, poſſeſſing conſtantly the ſame properties, I choſe that ob-

* In all experiments we are acquainted with, hydrogen gas was always evolved; but as we have no information concerning the arrangement of Prof. Pacchioni's apparatus, we cannot adduce this fact as concluſive againſt the accuracy of his experiments.—*Edinb. Editors.*

tained in the laſt experiment to ſubject it to chemical examination. The very able chemiſt of this univerſity, Sig. Giuſeppe Branchi, had the goodneſs to enter zealouſly into my views, and in his laboratory we eaſily proved,

1. The exiſtence of a volatile acid by the white vapours, which were formed by ammonia placed near it.

2. That this acid was certainly oxygenated muriatic acid, ſince it formed in nitrate of ſilver a curdy precipitate, the luna cornea of the ancients, or the muriate of ſilver of the moderns. From theſe facts we may draw the following poſitive and undeniable reſults :

1. Muriatic acid is an oxide of hydrogen, and is therefore compoſed of hydrogen and oxygen.

2. Oxygenated muriatic acid, and of courſe muriatic acid, contains leſs oxygen than water does.

3. Hydrogen has not one degree of oxygenation, but many. One of theſe conſtitutes water, another below it oxygenated muriatic acid, and, below this, there is another which conſtitutes muriatic acid.

I ſhall mention the other degrees in another memoir, which will be publiſhed immediately.

Theſe, my much eſteemed friend, are the deciſive facts and experiments which exclude every doubt, and which confirm my fortunate conjectures. It is long ſince experimental philoſophy may be ſaid to have become a ſource of wonders. The tranſmutation of azote into nitrous acid, and of hydrogen into water, appear to me truly wonderful, and your genius will enable you readily to judge whether the ſame epithet may be applied to the metamorphoſis of water into the true ſolvent of gold and platinum, into that volatile ſubſtance which attacks and neutralizes peſtilential miaſmata, and preſents ſo many reſources to philoſophy and the arts.

After having thus diſcovered the elements of this refractory ſubſtance, I am engaged in determining their proportions by experiment and calculation.

To me it appears that the origin and nature of muriatic acid being now known, there is no longer any myſtery in its formation, nor in that of the muriatic ſalts in the vaſt extent of the ocean. But theſe and other deductions will be explained by me in another place. They will have already occurred to you, and I ſhould exceed the limits of this letter, if I were to enter farther into the ſubject. With the moſt profound eſteem and ſincere attachment, I have the honour of ſubſcribing myſelf

Your much obliged ſervant and friend,

FRANCIS PACCHIONI.

Piſa, 9th May, 1805.

Contrary as the reſults announced in this intereſting communication are to analogy, there are ſome facts from which they receive at leaſt ſuch a degree of confirmation, as to entitle them to the attention of every one zealous in the cultivation of ſcience. In 1801, Mr. Cruickſhank diſcovered that infuſion of litmus was reddened by the one end of the pile, and infuſion of Brazil wood rendered purple by the other; but he ſuppoſed theſe effects to be owing to the formation of nitrous acid and ammonia; and only a few days before Prof. Pacchioni's letter was publiſhed at Piſa, the formation of muriatic acid by the Galvanic action was announced in London,* in a letter from from Mr. Peel, dated Cambridge, 23d April, 1805; which is as follows:

To Mr. Tilloch.

Cambridge, April 23, 1805.

Sir,

I take this opportunity of laying before the public, through the medium of your magazine, if you think it worthy a place in that work, the following experiment.

* Philoſophical Magazine for April 1805, p. 279.

I took about a pint of diſtilled water, and decompoſed one half of it by means of Galvaniſm; the other half I evaporated, and I found to remain at the bottom of the glaſs a ſmall quantity of ſalt, which, upon examination, proved to be muriate of ſoda, or common ſalt.—What induced me to try the experiment was this: I knew that when water was decompoſed by means of Galvaniſm, the water near one of the wires had alkaline, while that near the other had acid properties. This being the caſe, I inferred, that if an alkali and an acid were really produced, I ſhould by decompoſing a large quantity of water obtain a ſmall quantity of ſome kind of neutral ſalt—as was actually the caſe on trying the experiment. The ſalt could not have been contained in the water before I made the experiment, becauſe I uſed every precaution to have it free from impurities. I even took the trouble to repeat the experiment, though a tedious one, and again obtained the ſame reſult, &c. &c.

Yours, &c. &c.

WILLIAM PEEL."

P. S. A friend of mine juſt informs me that he has tried my experiment, and has ſucceeded in procuring the ſalt."*

Goettling's new proceſs for decompoſing Sulphate of Baryta, in order to prepare the Muriate of that Earth; with a mode of preparing the Muriate.

Four parts of native ſulphate of Baryta in fine powder are to be mixed with one part of muriate of ſoda, and half a part of charcoal powder.—This mixture is to be preſſed hard into a

* The Editor of the Philoſophical Magazine ſuggeſted to Mr. Peel, that his inveſtigation might be more intereſting if he would uſe water for his experiments compoſed from its elements—Hydrogen and Oxygen.

In a ſubſequent letter Mr. P. acquaints Mr. Tilloch, that an experiment conducted as deſired—gave a reſiduum of muriate of potash.

Heſſian crucible, and expoſed for an hour and a half to a red heat, in a good wind-furnace. After it has grown cold, the maſs is to be reduced to a coarſe powder, and boiled for a moment with ſixteen parts of water; the liquor is then to be filtered, and kept in well ſtopped bottles.

The time of expoſure to heat may be ſhortened one half, if the quantity of muriate of ſoda be doubled, and the matter occaſionally ſtirred. In this caſe, too, double the quantity of water ſhould be uſed to lixiviate the maſs.

To prepare muriate of baryta with this lixivium of ſulphuret of baryta, which at the ſame time holds in ſolution muriate of ſoda; muriatic acid is to be added in ſeparate portions till ſulphurated hydrogen gas is no longer extricated. The liquor is then to be filtered, a little hot water is to be poured on the reſiduum, and the liquor is to be evaporated to a pellicle. The lixivium being then filtered afreſh, is to be ſet to cryſtallize; the muriate of ſoda, which is much more ſoluble in water than the muriate of baryta, and not more ſoluble with heat than without, is not depoſited by cooling, and the muriate of baryta, cryſtallizes alone.

The remaining lixivium is to be evaporated and ſet to cryſtallize again, and this is to be repeated till no more cryſtals of muriate of baryta are formed.

The different products of the cryſtallization ſhould be mixed together, diſſolved and re-cryſtallized.

Tilloch.

Aya-Pana.

Bory de St. Vincent, in "his voyage aux principales Iles des Mers d'Afrique," relates, that the captain of a Daniſh ſhip, in the year 1798, firſt brought this plant from Brazil to the Iſle of France, as a panacea. It was immediately uſed againſt all kinds of diſeaſes, and he extols its wonderful effects, that it removes conſumption of the lungs, and that it was employed in the Iſle of France, as the ſureſt means againſt the bite of ſerpents; yet

it is known, that no ſerpents are to be found in either of the Maſcarhenas. "All errors," ſays Bory, "continue only for a time. This quackery alſo has ceaſed; the aya-pana is as little a panacea as the German "Forget me not." Bory himſelf took the infuſion of 30 leaves, for a catarrh, without the leaſt effect. People in the Iſle de France remember the aya-pana only to laugh at the follies related of this plant, and the Charlatan who introduced it is forgotten.

Ibid.

Account of the Method of ſupplying Artificial Noſes; as practiſed by the Natives of the Malabar Coaſt.

MOST of our readers have, no doubt, heard of the formation and adaptation of artificial noſes. In Europe this operation has been generally conſidered as viſionary, and has afforded a fine theme for the ridicule of ſome of our wits of the firſt order. For example, Addiſon, Steele, and Pope have not overlooked the art of famed Taliacotius. This art, it appears, is actually practiſed, and with great ſucceſs, in the weſtern parts of India, by a caſt of Hindoos, called Kamoos. An account of their method of performing this operation appears in a paper publiſhed in the Bombay Courier of the 4th April, 1795, which we have extracted for the information of the curious:

"It is much to be lamented that the Europeans, whoſe talents have been devoted to the literature of India, have applied themſelves rather to the ſpeculative than to the practical parts of knowledge; and that their diſcoveries, however meritorious, have been more curious than uſeful.

"Although we cannot agree with thoſe who look to India as the ſource from whence Europe has derived every thing that

is valuable in ſcience, yet we muſt allow that it has been the fountain of much of our knowledge; and that the common practice of the neceſſary arts of life among an ancient people would yet afford us not a little inſtruction.

" The progreſs that has been made in ſurgery for ſeveral centuries paſt in Europe makes it little probable that any improvement could be expected from the natives of this country; but we think, that in two operations we may ſtill receive inſtruction. The firſt of theſe is the depreſſion of the Chryſtalline lens, when it becomes opake; and the ſecond, the formation of noſes. We may alſo remark, that with inſtruments far more imperfect than ours, they perform the operation of lithotomy in the very place which, by the conſent of modern ſurgeons is eſteemed the beſt.

" The Hindoos certainly deſerve the praiſe of making artificial noſes in a ſuperior way to any people in the world; an art, unfortunately for them, the more neceſſary, as in no part of the world is the practice of cutting off noſes ſo common. The proceſs of repairing them was recommended in Europe about three hundred years ago, and was ſaid to have originated with the Calabrians, from whom it was received by the ſurgeons of Bologna.

" The celebrated Taliacotius, ſo unjuſtly expoſed by ſome of our wits to ridicule, wrote a volume of thoſe unions of living matter, under the title of " *Chirurgia curtorum per Inſitionem Membrorum.*" We have never had acceſs to this work; but we have reaſon to think, from the following extract from *Fabricius ab Aquapendente*, that the operation in Europe was much inferior to the one in uſe in this country.

' Si verô portio naſe cartilaginea ex toto amputetur, inſanabile hujuſmodi eſt vulnus. Ne tamen tanta ex abciſſo naſo in facie appareret deformitas ars excogitavit reparare amiſſum naſum, et primi, qui modum reparandi naſum callueſi fuerunt Calabri, deinde devenit ad Medicos Bonopienſes. Eſt tamen modus adeo

laborioſus, difficilis et longus, ut Ii qui huic ſe ſubmiſerunt ſi rurſus indigerent naſi reparatione, non amplius ſe ſubmitterent. Fit ſcarificata portione pinnæ naſi, deinde inciſa cute bracchii reſpondentis majori portioni naſi deperditæ, et applicata cute atque conſuta cum parte ſcarificata naſi; bracchium poſtea capiti alligatur, ita ut neque hinc neque inde unquam dimoveatur, quia ſi moveretur, non fieret agglutinatio. Facta glutinatione, iterum ſcarificatur naſus aliis ſcarificationibus, et frequentibus, adeo ut Caro rubea appareat, et cicatricis reliquia non appareant, tum vicina bracchii portio inciditur et apponitur, naſo et conſuitur, atque hoc toties repetitur et afficitur, quouſque totus naſus fuerit ſcarificatus, et cutis bracchii ex toto fuerit bracchio ablata, et naſo agglutinata. Multas animadverſiones in hujuſmodi curatione proponerem niſi ſcirem hujus rei profeſſorem magnum volumen in lucem dediſſe.'

" From the above curious paſſage it will be obſerved, that the object could not be effected until an adheſion had taken place between the arm and the mutilated noſe; and we may readily conceive, that an operation ſo long and painful would ſoon fall into diſuſe.

" We have ſeen a letter from Mr. Lucas, an ingenious ſurgeon of Madras, deſcribing very particularly the operation of putting on noſes, which in one caſe he himſelf performed with ſucceſs. This differs but little from the Indian method practiſed by the Koomas, a caſt of Hindoos; with which, as it has been ably deſcribed by a gentleman who witneſſed the proceſs, we ſhall conclude theſe obſervations.

" Some religious ceremonies are firſt performed: beetel and arrack put into the patient's hands, he is then laid upon his back, his arms ſtretched along his ſides on the ground, he is ordered, on no pretence whatever, to raiſe his arms during the operation; and they impreſs him with the idea, that it cannot be ſucceſsful unleſs he complies ſtrictly with theſe injunctions. A plate of wax being previouſly formed into the ſhape of the defective noſe, it is flattened and laid obliquely upon the fore-

head, ſo as to avoid the hairy ſcalp. The alæ and ſeptum of the artificial noſe being placed upwards, the other extremity of it terminating at the indentation of the oſſa naſi with the os frontis, the operator marks out a portion of integuments equal to the ſize of the flattened wax, and then diſſects it from the pericranium, leaving a ſmall ſlip undivided between the eye-brows, to preſerve the circulation in the detached piece until an adheſion takes place between it and the ſtump of the noſe. He then cuts or pares off the cicatrix from the ſtump of the noſe; and immediately behind the inciſion he makes an inciſion, into which the edge of the integuments are to be grafted or inſerted.

" As there remains a ſlip of teguments between the eye-brows undivided, the detached portion, when turned down, is twiſted half round; ſo that its recent ſurface may be applied to the face of the ſcarified ſtump, and the edge grafted into the above-deſcribed inciſion, which extends along both alæ to the ſuperior part of the upper lip; a tranſverſe inciſion is alſo made in the ſuperior part of the upper lip, into which the ſeptum is inſerted. Thus carefully grafting or inſerting the ſcalp, it is kept exactly in this ſituation by a cement, called in this country *Kitta*, which is ſoftened with a little water, and ſpread on long narrow bits of cotton cloth; five or ſix of which are applied over each other upon the junction which forms an irregular triangle. The dreſſing for the wound on the forehead is pieces of cloth dipped in ghee; the patient is deſired to lie on his back five or ſix days. Four days after the operation the cement is removed, and the junction only covered with cloth moiſtened in ghee or oil, which is renewed every day: neither ſtitches, ſticking plaſter, compreſs, nor bandages, are required. About ten days after the operation, round doſſils, made of ſoft old cloth, are introduced into the noſtrils to prevent them from contracting too much, which would happen if this precaution were neglected.

" The connecting ſlip of integuments is generally divided about the twenty-fifth day; and on this occaſion ſome more

diſſection is neceſſary, to effect an exact union, and to leave as little ſeam as poſſible on the ſuperior part of the arch of the noſe. *Europ. Mag.*

On the mode of detecting Arſenic in thoſe poiſoned thereby, &c. &c.

'Phyſicians and ſurgeons are ſometimes called upon, in caſes of ſuppoſed murder by arſenic, to give their opinion; and the queſtions commonly put to them are theſe:

'1. Whether the appearances or ſymptoms obſerved in the dying and dead perſon give reaſon to conclude that they were killed with arſenic?

'2. Whether certain drugs or powders which were given to the dead perſon, or mixed with his food, and a part of which are committed to the phyſician to be examined, be arſenic, or contain arſenic?

'It is neceſſary to be cautious in giving our anſwer to the firſt queſtion, which ſeldom admits of a perfectly deciſive anſwer, if the preſumption of poiſon reſts on the ſymptoms alone; the ſymptoms produced by arſenic being not unlike to thoſe which appear in ſome diſeaſes, ſuch as the cholera. But theſe ſymptoms may add to the proof which may ariſe from other evidence.

'The ſymptoms produced by a dangerous doſe of arſenic begin to appear in a quarter of an hour, or not much longer, after it is taken. Firſt, ſickneſs, and great diſtreſs at the ſtomach, ſoon followed by thirſt, and burning heat in the bowels. Then come on violent vomiting, and ſevere colic pains, and exceſſive and painful purging. This brings on faintings, with cold ſweats, and other ſigns of great debility. To this ſucceed painful cramps, and contractions of the legs and thighs, and extreme weakneſs, and death.

'After death, the inteſtines are found inflamed and corroded; and ſometimes inflammation and eroſions of the anus happen before death.

'In examining the dead body, we muſt take care that we be not deceived by the diſſolution of the ſtomach by the gaſtric liquor, and account it an indication of arſenic.

'If we actually find arſenic in the ſtomach or inteſtines, or in the drugs or other ſuſpected matters which were given to the dead perſon, we can give a deciſive anſwer to thoſe two queſtions. But we muſt make ourſelves ſure that what we judge to be arſenic is really ſo.

'We muſt, therefore, take care to be well acquainted with the qualities of arſenic, by which it is diſtinguiſhable from all other ſubſtances. And its diſtinctive properties are theſe:

'1*mo*, It is a heavy ſubſtance, which may therefore be ſeparated by ſkilful elutriation from animal or vegetable matter with which it may happen to be mixed in the bowels or in the drugs. Elutriation is commonly performed with water; but if the arſenic is mixed with oily or reſinous drugs, it may be performed with alcohol. In examining the dead body, therefore, it may be proper to waſh out the whole contents of the ſtomach and bowels into a baſin of water, and then, by careful elutriation, to try if any arſenic can be found in them. And in examining the drugs, if they are a mixture of different ingredients, we muſt dilute or diſſolve them, by grinding them a little with water or ſpirits, and then elutriate.

'2*do*, Arſenic, beſides being a heavy ſubſtance, is volatile. When heated on a red hot iron, it evaporates totally before it be red hot, and goes off in white ſmoke.

'3*tio*, It is eaſily metallized by mixing it with three times its weight of the black flux, and heating the mixture in a tube.

'4*to*, In this metallized ſtate, it eaſily penetrates copper, when aſſiſted by heat, and gives to the copper a whitiſh colour like that of lead or tin. It muſt be made of a dull red heat. This will completely diſſipate corroſive ſublimate, or other things which can whiten copper.

'5to, In its metallized ſtate, if it be ſuddenly heated to a ſufficient degree on a red hot iron, it takes fire, and burns with a flame, from which ariſes a ſmoke, which is white arſenic. Or, if the iron be not ſufficiently hot to make it take fire, it ſimply evaporates, and gives vapours which have an odour like that of garlic. The ſame odour is perceived, if we mix white arſenic with an equal weight of charcoal duſt, and throw a little of the mixture on a burning coal, or on iron ſtrongly heated, ſo as to ſet the charcoal duſt on fire. This experiment has been often miſunderſtood.

'Having had occaſion ſome time ago to exerciſe myſelf in theſe experiments, and to try with how ſmall a quantity of arſenic they might be made, I found I was able, by means of a ſmall tube, to get metallized arſenic from one grain weight of white arſenic; and with this metallized arſenic I made the other experiments.

'*Remedies to ſave, if poſſible, the life of a perſon who has taken Arſenic.*

The firſt ſymptoms which the arſenic produces ſhew plainly, that, for ſome time after it is taken, it acts on the ſtomach and inteſtines as an highly irritating, inflammatory, corroſive ſubſtance. But if the patient ſurvives the firſt violent effects, the poiſon being evacuated out of the bowels, the ſymptoms which appear afterwards are thoſe of exceſſive debility, and a great irritability of the inteſtinal canal, and of the whole ſyſtem. The degree of debility is particularly remarkable. It not only is evident from the languor, diſtreſs, and feebleneſs of the patient, but alſo from the ſtate of the pulſe. I never felt a more feeble pulſe than that of a perſon in this ſituation. All this is attended with a ſort of paralytic affection of the limbs, and a degree of maraſmus.

'The method commonly recommended to ſave the life of the perſon in the firſt of theſe ſtates is, to give plenty of milk

and oil, as obtunding remedies, and which help to waſh and carry off the arſenic out of the inteſtines, while vomiting and purging continue.

'A better practice, however, might be ſubſtituted for this. Arſenic, being a heavy ſubſtance, is not eaſily waſhed out by milk, and it may probably coagulate the milk by its acidity. Oil will not mix with it after it is wet. I ſhould prefer mucilage, taken in large quantities; and if it do not paſs off quickly, I would promote its paſſage by means of a purgative, ſuch as Glauber's ſalt, or ſal catharticus amarus. A friend of mine once gave whites of eggs with ſucceſs.

'In the ſecond ſtage of the diſorders produced by arſenic, which is commonly of long duration, a mild diet of milk is proper. The frequent uſe of opiates, to relieve from conſtant diſtreſs, and after ſome time electricity, are very ſerviceable. De Haen found electricity one of the beſt remedies for the cure of the diſorders occaſioned by lead. Mineral waters have been recommended, eſpecially the ſulphurous waters; and to imitate theſe, hepar ſulphuris diſſolved in water may be employed. But this practice is founded upon project and ſpeculation, not upon experience.' *Black's Elements of Chemiſtry.*

Correction of the ill Flavour of Malt Spirits.

The flavour of malt ſpirits is ſaid to be greatly improved, and made to reſemble that of French brandy, by immerſing in it, for a fortnight, a mixture of finely powdered charcoal and ground rice, in the proportions of $3\frac{1}{2}$ ounces of the former, and $4\frac{1}{2}$ of the latter, to a quart of the ſpirit. The mixture muſt be frequently agitated, and afterwards ſtrained.

Med. & Chirurg. Review.

Method of reſtoring Eſſential Oils that have become thickened and rancid.

The volatile eſſential oils frequently loſe by age their fluidity, together with the greateſt part of their peculiar fragrance. Theſe, it has been diſcovered, may be perfectly reſtored by the following ſimple proceſs. To four ounces of the ſpoiled oil add two drachms of ſulphuric æther. Digeſt them together for a few days, and then diſtil with pure water. The oil comes over perfectly limpid, and with its peculiar odour reſtored. A quantity of reſinous matter remains behind in the ſtill.

In this operation *M. De Roover* ſuppoſes that the æther recompoſes the oil by tranſmitting its hydrogenous principle to the oily baſe. *Ibid.*

Tincture of Tobacco.

The following formula of a tincture of tobacco is ſtrongly recommended by Mr. Noble in his treatiſe on Ophthalmy, for the alleviation of the pain in the temple, which frequently is a moſt diſtreſſing ſymptom in this complaint.

℞. Fol. Nicotianæ incis. lb. i.
Camphoræ, 34.
Spiritus Vini rectificati.
Aquæ diſtillatæ, ana, lbs. ij.

A drachm or two is to be rubbed on the pained part with the finger, and repeated occaſionally. *Ibid.*

Saline draught.

The following formula for a ſaline draught, is recommended by Dr. James Hamilton of London, as being equally agreeable, and in ſome caſes more efficacious than the one in general uſe compoſed of carbonate of potaſs and citric acid,

the citric acid is often ſcarce; ſometimes impure, and expenſive; the ingredients of the other are always to be had, they are cheap, and never vary in quality.

℞. Sub-boras Sodæ gr. xv.
Super-tartris potaſſæ ʒſs.
Solve terendo in mortareo cum lact. amygd. ʒx.
Dein adde ſyr. ſimpl.—aq. cinnam. a. ʒi. ft. hauſt.

Med. & Phys. Journal.

On the Uſe of the new Metals in the Practice of Phyſic.

Of the twenty-one metals now known, only one half are employed as medicines; viz. ſilver, mercury, tin, iron, lead, copper, zinc, antimony, biſmuth, and arſenic. As theſe are all powerful remedies, it is rather ſurpriſing that trials have not been made of the reſt. Gold, indeed, has been uſed, but I think not fairly. Platina, cobalt, nickel, manganeſe, uranite, titanite, tellurite, molybdæna, tungſten, chromite, have not, that I have heard, been uſed at all. Two of them which I have tried (platina and manganeſe,) differ totally in their effects.

Platina.

The oxide of platina, precipitated by ſal ammoniac from its ſolution in nitro-muriatic acid, is, when dried, of a yellow and orange colour. This oxide, in doſes of one to three grains, occaſioned vomiting, in the ſame manner as tartrite of antimony. In ſmaller doſes I found no ſenſible effect, except their ſometimes purging and creating ſickneſs.

Manganeſe.

I uſed two preparations of this metal: the *white oxide* precipitated from its muriatic ſolution by fixed alkali; and the phoſphate of manganeſe, precipitated from its muriatic ſolution in water by phoſphate of ſoda, which affords a light blue powder when dried.

1. The white oxide was borne on the ſtomach without ſickneſs, or vomiting, or pain; in full as large doſes as can be borne of precipitate of ſulphate of iron by fixed alkali; viz. in doſes of ten grains, or more. As far as my trials extended, the effects were much the ſame as thoſe of oxide of iron.

2. The phoſphate of manganeſe was borne in the ſame doſes as the above, and with the ſame effects.

The other new metals I have not exhibited: but it may be uſeful to mention, that the beſt (becauſe taſteleſs and leaſt irritating) preparation of copper, is phoſphate of copper, precipitated from ſulphate of copper by phoſphate of ſoda. And phoſphate of ſilver, precipitated from nitrate of ſilver by phoſphate of ſoda, is a moſt admirable hydragogue purgative in dropſies. A grain or two is ſufficient, and is better than Boerhaave's Lunar Pill.

Phoſphate of iron is a better medicine than ſulphate of iron, and is prepared by precipitating it from the ſulphate by phoſphate of ſoda. It may be given in doſes of from ten to fifteen grains.

In fact, moſt of the phoſphates of metals are the preferable preparations. *Med. & Chirurg. Review.*

Extraordinary Inſtance of univerſal Anchyloſis.

M. *Percy*, a ſurgeon in chief in the French army, read a memoir lately, to the *National Inſtitute*, on the affection mentioned above. After having mentioned ſome other inſtances of a ſimilar kind, related by different authors, he proceeds to recite the caſe he himſelf witneſſed, and which was that of an officer, who had contracted in the field a gouty rheumatiſm that deprived him in ſucceſſion of the uſe of his fingers, hands, and feet; and, after exceſſive pains, deſtroyed all power of movement, even of the lower jaw, and bereaved him alſo of ſight. He paſſed ſeveral years in an elbow chair, without obtaining a moment's ſleep, notwithſtanding the largeſt doſes of opium. Being re-

duced at length to ſucking only a little broth or wine through the very ſmall opening which was naturally between the teeth, two of the inciſors were removed, which enabled him to ſpeak with more freedom, and to ſuck liquid through a reed, and even to ſwallow a ſmall quantity of minced meat.

The body of the miſerable ſufferer was a ſort of ſtatue or living corpſe, and formed, as it were, a ſingle piece: all the bones were ſoldered together. Notwithſtanding, he was lively in converſation; his phyſiognomy was full of expreſſion, and even of hilarity. The muſcles of his face had acquired a ſingular degree of mobility; they were continually in action, either to ſupply the want of geſtures, which he was unable to make, or in order to contract the ſkin, and drive away inſects that accidentally lodged on it. The patient at length died, and the ſkeleton is preſerved in the collection of the *Ecole de Medecine.*

Ibid.

An Inſtitution for inveſtigating the nature and cure of CANCER *has lately been planned in London, and ſome progreſs made towards its eſtabliſhment.*

In order to collect all that is at preſent known on the ſubject of *Cancer*, and to extend the circle of probable information, it is propoſed that a correſpondence ſhall be opened with medical men of ſcience and experience, not only in the United Kingdom, but in the colonies, and every part of the continent.

The information particularly wiſhed for may be collected from the following liſt of *Queries*, which has been circulated amongſt the members.

Queries.

I. What are the diagnoſtic ſigns of a CANCER?

II. Does any alteration take place in the ſtructure of a part preceding that more obvious change which is called CANCER? if there does, what is the nature of that alteration?

III. Is CANCER always an original and primary diſeaſe, or may other diſeaſes degenerate into CANCER?

IV. Are there any proofs of CANCER being an hereditary diſeaſe?

V. Are there any proofs of CANCER being a contagious diſeaſe?

VI. Is there any well-remarked relation between CANCER and other diſeaſes? if there be, what are thoſe diſeaſes to which it bears the neareſt reſemblance in its origin, progreſs and termination?

VII. May CANCER be regarded at any period, or under any circumſtances, merely as a local diſeaſe? or does the exiſtence of CANCER in one part afford a preſumption that there is a tendency to a ſimilar morbid alteration in other parts of the animal ſyſtem?

VIII. Has climate or local ſituation, any influence in rendering the human conſtitution more or leſs liable to CANCER, under any form, or in any part?

IX. Is there any particular temperament of body more liable to be affected with CANCER than others? And if there be, what is that temperament?

X. Are brute creatures ſubject to any diſeaſe reſembling CANCER in the human ſubject?

XI. Is there any period of life abſolutely exempt from the attack of this diſeaſe?

XII. Are the lymphatic glands ever affected primarily in CANCER?

XIII. Is CANCER under any circumſtances ſuſceptible of a natural cure?

XIV. Does CANCER ever attack the human frame previouſly to the age of puberty?

XV. Is there any branch of manufacturers either more or leſs ſuſceptible of the diſeaſe?

XVI. Does CANCER ever attack ſeafaring people?

XVII. Are widows or virgins more ſuſceptible of the diſeaſe than married women?

XVIII. In examining the bodies of thoſe who die from confirmed CANCER, what are the appearances of the uterus?

Ibid.

The Action of the Spleen inveſtigated by the Effects following its Extirpation.

M. M. *Le Clerc* and *Dupuytren*, Members of *l'Ecole de Medecine*, of Paris, obſerved, in a dog, whoſe ſpleen had been extirpated, the bile to be ſeparated more rapidly than uſual, with a copious vomiting of liquid matters. Another dog, ſubjected to the ſame operation, and who ſurvived it for the ſpace of fifty days, ſecreted little bile; but the liver was found exceedingly enlarged, and its weight, compared with that of the whole body, was as 1 to $14\frac{1}{4}$; whilſt in the ſame animal in health, the proportion is as 1 to $29\frac{3}{4}$. *Ibid.*

On the Preparation of the Red Oxide of Mercury (Hydrargyrus Nitratus Ruber, or Red Precipitate.)

M. *Fiſcher* has pointed out a ready and economical mode of preparing the red oxide of mercury, which deſerves notice. In the common method of forming this ſubſtance there is a conſiderable waſte of nitric acid, all that is not employed in oxidating the metal being driven off and loſt during the evaporation to dryneſs and ſubſequent heating of the nitrate. In the proceſs here recommended, any given portion of quickſilver is to be diſſolved in a ſufficient quantity of the nitric acid, and the ſolution evaporated to dryneſs: with the ſalt thus obtained a further portion of quickſilver, equal, or nearly ſo, to the quantity at firſt employed, is to be triturated, with the addition of

water enough to form a paſte, till the quickſilver entirely diſappears. The moiſt maſs is then to be gently dried, and expoſed to a gradual heat in a retort. In a few minutes it aſſumes a red colour, and, when cooled, is obtained in the ſtate of fine powder. *Ibid.*

New Proceſs for preparing the Black Oxide of Iron (Æthiops Martialis.) By C. Cavezzali, *Apothecary to the Hoſpital at Lodi.*

The black oxide of iron, or martial æthiops, is uſually prepared by macerating for a length of time iron filings in diſtilled water, when the iron falls ſpontaneouſly into a black powder, which is afterwards ſeparated by waſhing and exſiccation. This proceſs, however, is tedious and imperfect, and much inferior, probably, to the method here recommended, which conſiſts in uſing only water enough to form the filings into a paſte, adding from time to time a freſh quantity to ſupply that loſt by decompoſition and evaporation. About the fifth day the maſs ſwells, and gives out hydrogene gas. When this kind of fermentation has ceaſed, and which is uſually about the 16th or 17th day, the maſs is repeatedly waſhed, to procure the finer part of the oxide thus formed. The reſidue is then dried and pulverized, and again waſhed, when a freſh quantity of oxide is obtained, leſs fine than the preceding. Laſtly, the remaining iron is again formed into a paſte, and, after the ſame length of time, waſhed as before. In this way the whole of the iron becomes converted into black oxide, and gains an increaſe of weight equal to about 35 per cent. *Ibid.*

Inſuſceptibility of Electrical Impreſſion.

Letter from Cit. *Clos* to *J. C. Delametherie*, editor of the *Journal de Phyſique.*

"Having heard it ſaid, at *Sorèze*, that Madame N*** was not at all ſubject to electricity, my curioſity was excited by the

ſingularity of the fact: I wiſhed to aſcertain its certainty, and the following is what I have poſitively learnt.

"About 18 or 20 years ago, this lady, enjoying in other reſpects a robuſt conſtitution, was obſerved to be entirely inſenſible to the effects of the electric fluid: in the experiments which were made at the *Cabinet de Phyſique*, ſhe ſubmitted, without reluctance, to the moſt powerful ſhocks, and communicated them to other perſons, without herſelf feeling them. At this period ſhe had a ſiſter nearly in the ſame ſituation. It is not known whether her other relations preſented the ſame ſingularity. For ſome years paſt this lady has become valetudinary, and at times is attacked with nervous affections; at preſent ſhe is ſubject to the influence of electricity, ſo, however, as to feel its effects but very ſlightly. She is as lively, ſpirited, and ſenſible, as the generality of other perſons in whom the nervous ſyſtem is very mobile.

"Is Madame N*** ſafe from a ſtroke of lightning? I ſhould eaſily believe it, if the accidents which this terrible meteor occaſions did not moſt frequently proceed from the *commotion* which its exploſion impreſſes on the ſurrounding bodies, as well as from the diſengagement of ſuffocating ſulphureous vapours.

"However this may be, as my memory does not furniſh me with any analogous fact in the books of phyſic which I have read, I communicate this to you. If you judge it of ſufficient importance to merit further details, I will collect them, and with pleaſure addreſs them to you." *Ibid.*

Children poiſoned by bitter Almonds.

In the Medical Journal, publiſhed at Montpelier, we find two caſes of children poiſoned by the uſe of bitter almonds; in one, the perſon had eaten them heated in a copper veſſel; in the other, the child had been made to drink the milk of bitter almonds as a remedy againſt worms.

It is rather ſingular, the variety of opinions that exiſt on the pernicious effects of theſe bodies; ſome maintaining them to be harmleſs when uſed by man, while they are acknowledged to be highly deleterious to other animals, particularly birds. The learned Prof. Murray made many experiments on different animals, which prove their poiſonous qualities, but in different degrees in different animals. In thoſe animals, the ſubjects of his experiments, as well as in the caſes of the children, the effects of drunkenneſs were very remarkable. On the other hand, Fred. Hoffman aſſerts, Medic. Ration. Syſtem. vol. 1. that their bad effects are but little obſerved in the human ſubject, but, like nux vomica, highly ſo to other animals; he inſtances the dog, cat, pigeon, &c. The experiments of Schrader, a diſtinguiſhed chemiſt of Berlin, are remarkable. He found that the pruſſic acid was contained in laurel water, in the infuſion of peach leaves, in bitter almonds, as well as many other vegetables; and deſirous to aſcertain if this acid produced the ſame effects on the animal economy as the diſtilled laurel water, bitter almonds, &c. he gave a ſparrow ſome drops of it, which was immediately killed. The ſame author aſſerts, that birds reſpiring the vapours of pruſſic acid, die as quickly as thoſe expoſed to the ſmell of laurel water. If bitter almonds contain pruſſic acid, and if this acid be mortal, may we not conclude that their pernicious effects depend on the pruſſic acid which they contain?

Med. and Phys. Journal.

NEW PUBLICATIONS.

MEDICAL Inquiries and Obſervations. By Benjamin Ruſh, M. D. profeſſor of the inſtitutes and practice of medicine, and of clinical practice, in the Univerſity of Pennſylvania. In four volumes. The ſecond edition, reviſed and enlarged by the author. Philadelphia, 1805. *Conrad & Co. price* 9 *dollars.*

The preface to the preſent edition, will beſt ſhew what changes have been made in it by the author.

IN the ſecond edition of the following Medical Inquiries and Obſervations, the reader will perceive many additions, ſome omiſſions, and a few alterations.

A number of facts have been added to the Inquiry into the Effects of Ardent Spirits upon the Body and Mind, and to the Obſervations upon the Tetanus, Cynanche Trachealis, and Old Age, in the firſt volume; alſo to the Obſervations upon Dropſies, Pulmonary Conſumption, and Hydrophobia, contained in the ſecond volume.

The Lectures upon Animal Life, which were publiſhed, a few years ago, in a pamphlet, have received no other additions than a few notes.

The phenomena of fever have not only received a new title, but ſeveral new terms have been adopted in detailing them, chiefly to remove the miſtake into which the uſe of Dr. Brown's terms had led ſome of the author's readers reſpecting his principles. A new order has likewiſe been given, and ſome new facts added, to the inquiry upon this ſubject.

In the Account of the Yellow Fever of 1793, many documents, intereſting to the public at the time of their firſt publication, are omitted; and many of the facts and obſervations which related to the origin of the fevers of 1794 and 1797, now form a part of a ſeparate inquiry upon that ſubject, in the fourth volume.

The hiſtories of the yellow fever as epidemics, and of its ſporadic caſes, have been publiſhed in the order in which they have appeared in Philadelphia, to ſhow the influence of the weather upon it, and the impropriety and danger of applying the ſame remedies for the ſame epidemic, in different and even ſucceſſive ſeaſons. The records of the firſt caſes of yellow fever, which have appeared in each of the twelve years that have been noticed, are intended further to ſhow the inefficacy of all the means, at preſent employed, to prevent its future recurrence.

In the fourth volume, the reader will find a retraction of the author's former opinion of the yellow fever's ſpreading by contagion. He begs forgiveneſs of the friends of ſcience and humanity, if the publication of that opinion has had any influence in increaſing the miſery and mortality attendant upon that diſeaſe. Indeed, ſuch is the pain he feels, in recollecting that he ever entertained or propagated it, that it will long, and perhaps always, deprive him of the pleaſure he might otherwiſe have derived from a review of his attempts to fulfil the public duties of his profeſſion.

Conſiderable additions are made to the facts and arguments in favour of the domeſtic origin of the yellow fever, and to the Defence of Blood-letting.

The Account of the Means of Preventing the Uſual Forms of Summer and Autumnal Diſeaſe, appears for the firſt time in this edition of the author's Inquiries. Part of the facts intended to prove the yellow fever not to be contagious, were publiſhed in the ſixth volume of the New-York Medical Repoſitory. The reader will perceive, among many additions to them, anſwers to all the arguments uſually employed to defend the contrary opinion.

The Inquiry into the Comparative State of Medicine, in Philadelphia, between the years 1760 and 1766, and 1805, was delivered, in the form of an oration, before the Medical Society of Philadelphia, on the 18th of February, 1804. Some things

have been omitted, and a few added, in the form in which it is now offered to the public.

If this edition of Medical Inquiries and Obſervations ſhould be leſs imperfect than the former, the reader is requeſted to aſcribe it to the author having profited by the objections he encouraged his pupils to make to his principles, in their inaugural diſſertations, and in converſation; and to the many uſeful facts which have been communicated to him by his medical brethren, whoſe names have been mentioned in the courſe of the work.

For the departure, in the modes of practice adopted or recommended in theſe Inquiries, from thoſe which time and experience have ſanctioned, in European and in Eaſt and Weſt-Indian countries, the author makes the ſame defence of himſelf, that Dr. Baglivi made, near a century ago, of his modes of practice in Rome. "*Vivo et ſcribo in aere Romano*," ſaid that illuſtrious phyſician. The author has lived and written in the climate of Pennſylvania, and in the city of Philadelphia.

A Treatiſe on the hidden nature, and the treatment of Intermitting and Remitting Fevers: illuſtrated by various experiments and obſervations; in two books, by Jean Senac, M. D. Tranſlated from the Latin, with notes, by Charles Caldwell, M. D. Philadelphia, 1805. *Kimber, Conrad, & Co. pp.* 299, *price* 1 *dol.* 75 *cts.*

Recommendatory Preface by Dr. Rush.

THE following tranſlation of Senac's treatiſe, "De recondita febrium intermittentium, tum remittentium natura, et de earum curatione," was undertaken by Dr. Caldwell, at the requeſt of the ſubſcriber. He has long known it to be a judicious and uſeful work, and has derived much aſſiſtance from it in his practice. He is happy in this opportunity of recommending it

to the ſtudents of medicine in the United States, as peculiarly calculated to aſſiſt them in forming juſt opinions, of the nature and treatment of the ſummer and autumnal diſeaſes of our country.

BENJ. RUSH, M. D. &c. &c.

June 29, 1805.

Practical Obſervations in Surgery, illuſtrated with caſes and plates, by William Hey, Eſq. F. R. S. Member of the Royal College of Surgeons in London, &c. &c. Humphreys, Philadelphia, 1805, *pp.* 332, *price* 3 *dol.* 25 *cts. boards. Firſt American Edition.*

The Lectures of Boyer, upon Diſeaſes of the Bones, arranged into a Syſtematic Treatiſe, by A. Richerand, Profeſſor of Anatomy, &c. &c. at Paris. Illuſtrated with plates. Tranſlated from the French, by M. Farrell, M. D.—Firſt American edition, with notes and additional plates by Joſeph Hartſhorne, M. D. Philadelphia, 1805, *Humphreys, pp.* 368. *price* 4 *dol.* 12½ *cts. boards.*

A Compendious Syſtem of Anatomy, in ſix parts: I. Oſteology. II. Of the Muſcles, &c. III. Of the Abdomen. IV. Of the Thorax. V. Of the Brain and Nerves. VI. Of the Senſes. From the Encyclopædia, illuſtrated with twelve large Copperplates, pp. 419, *price* 2 *dols. Dobſon. New edition.*

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The Philadelphia Medical and Physical Journal, collected and arranged by Benjamin Smith Barton, M. D. Professor of Materia Medica, Natural History and Botany, in the University of Pennsylvania. Part 1. *vol.* 2. *Philadelphia,* 1805. *Conrad & Co.* 8*vo. pp* 208. 1 *dollar.*

A medical institution has been lately established in Philadelphia, under the title of the "PHILADELPHIA MEDICAL LYCÆUM."

At a meeting of the Philadelphia MEDICAL LYCÆUM, on the 1st of January 1806, the following gentlemen were chosen officers for the ensuing year.

Dr. Coxe, Dr. Dewees, Dr. Chapman, Dr. Dorsey,	Presidents.
Dr. E. Griffith,	Treasurer.
Dr. Rousseau,	Librarian.
Dr. Meredith,	Curator.
Dr. Farquhar,	Corresponding Secretary.
Mr. S. S. Tucker,	Recording Secretary.

The following gentlemen were elected junior members of the LYCÆUM.

Mr. Tucker,	Mr. Jones,
Mr. Weems,	Mr. Nelson,
Mr. Wroth,	Mr. Little,
Mr. Clagget, jun.	Mr. Doyley.